

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
ARS-USMARC-PARENT-AY761135-RS29003723	Verification	rs29003723	ss38341018	A/T	A/T	1	127426647	UMD3.1	ARS-USMARC-Parent-AY761135-rs29003723-0_B_R_1511686386
ARS-USMARC-PARENT-AY776154-NO-RS	Verification	rs41257512	ss117966901	A/G	A/G	2	26997623	UMD3.1	ARS-USMARC-Parent-AY776154-no-rs-0_T_F_1544362783
ARS-USMARC-PARENT-AY842472-RS29001941	Verification	rs29001941	ss38339339	C/G	C/G	3	40399136	UMD3.1	ARS-USMARC-Parent-AY842472-rs29001941-0_T_F_1511686337
ARS-USMARC-PARENT-AY842473-RS29001956	Verification	rs29001956	ss38339354	A/G	A/G	3	49703647	UMD3.1	ARS-USMARC-Parent-AY842473-rs29001956-0_B_R_1511686054
ARS-USMARC-PARENT-AY842474-RS29003226	Verification	rs29003226	ss38340448	G/C	C/G	3	51976646	UMD3.1	ARS-USMARC-Parent-AY842474-rs29003226-0_T_R_1511685807
ARS-USMARC-PARENT-AY842475-RS29002127	Verification	rs29002127	ss38339556	A/G	A/G	4	20181749	UMD3.1	ARS-USMARC-Parent-AY842475-rs29002127-0_T_F_1511685857
ARS-USMARC-PARENT-AY844963-RS17871338	Verification	rs17871338	ss28451679	A/G	A/G	5	98102349	UMD3.1	ARS-USMARC-Parent-AY844963-rs17871338-0_T_F_1511685889
ARS-USMARC-PARENT-AY849381-RS29003287	Verification	rs29003287	ss38340521	A/G	A/G	6	23562312	UMD3.1	ARS-USMARC-Parent-AY849381-rs29003287-0_T_F_1544362791
ARS-USMARC-PARENT-AY850194-NO-RS	Verification	rs41255750	ss117969490	T/C	A/G	8	59996431	UMD3.1	ARS-USMARC-Parent-AY850194-no-rs-0_B_F_1511686156
ARS-USMARC-PARENT-AY851162-NO-RS	Verification	rs41255717	ss117970419	A/G	A/G	11	46411100	UMD3.1	ARS-USMARC-Parent-AY851162-no-rs-0_B_R_1544362778
ARS-USMARC-PARENT-AY851163-RS17871661	Verification	rs17871661	ss28452002	T/C	A/G	11	103047474	UMD3.1	ARS-USMARC-Parent-AY851163-rs17871661-0_T_R_1511686095
ARS-USMARC-PARENT-AY853302-NO-RS	Verification	rs41257524	ss117970873	A/G	A/G	13	47397987	UMD3.1	ARS-USMARC-Parent-AY853302-no-rs-v2-1_T_F_1924250844
ARS-USMARC-PARENT-AY853303-NO-RS	Verification	rs41257490	ss117970875	T/C	A/G	13	75383374	UMD3.1	ARS-USMARC-Parent-AY853303-no-rs-0_B_F_1511686244
ARS-USMARC-PARENT-AY856094-RS17871190	Verification	rs17871190	ss28451531	A/G	A/G	29	9160939	UMD3.1	ARS-USMARC-Parent-AY856094-rs17871190-0_B_R_1544362770
ARS-USMARC-PARENT-AY858890-RS29002256	Verification	rs29002256	ss38339696	C/G	C/G	17	29936157	UMD3.1	ARS-USMARC-Parent-AY858890-rs29002256-0_B_R_1511686322
ARS-USMARC-PARENT-AY860426-NO-RS	Verification	rs41255724	ss117972311	T/G	A/C	17	56512519	UMD3.1	ARS-USMARC-Parent-AY860426-no-rs-0_T_R_1511686089
ARS-USMARC-PARENT-AY863214-RS17871744	Verification	rs17871744	ss28452085	T/C	A/G	18	46647177	UMD3.1	ARS-USMARC-Parent-AY863214-rs17871744-0_T_R_1511686253

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
ARS-USMARC-PARENT-AY914316-RS17871403	Verification	rs17871403	ss28451744	T/G	A/C	18	48812014	UMD3.1	ARS-USMARC-Parent-AY914316-rs17871403-0_T_R_1511686395
ARS-USMARC-PARENT-AY916666-NO-RS	Verification	rs41257460	ss117972636	A/G	A/G	19	44799390	UMD3.1	ARS-USMARC-Parent-AY916666-no-rs-0_B_R_1511686100
ARS-USMARC-PARENT-AY919868-RS29002211	Verification	rs29002211	ss38339648	A/G	A/G	20	46066109	UMD3.1	ARS-USMARC-Parent-AY919868-rs29002211-0_B_R_1544362786
ARS-USMARC-PARENT-AY929334-NO-RS	Verification	rs41255852	ss117973373	T/C	A/G	23	7219975	UMD3.1	ARS-USMARC-Parent-AY929334-no-rs-0_T_R_1511686227
ARS-USMARC-PARENT-AY937242-RS17872223	Verification	rs17872223	ss28452564	A/G	A/G	23	27306795	UMD3.1	ARS-USMARC-Parent-AY937242-rs17872223-1_B_R_2022483098
ARS-USMARC-PARENT-AY939849-RS17870274	Verification	rs17870274	ss28450615	A/G	A/G	24	56415794	UMD3.1	ARS-USMARC-Parent-AY939849-rs17870274-0_T_F_1511686403
ARS-USMARC-PARENT-AY941204-RS17872131	Verification	rs17872131	ss28452472	T/C	A/G	25	14683151	UMD3.1	ARS-USMARC-Parent-AY941204-rs17872131-0_B_F_1511686056
ARS-USMARC-PARENT-AY943841-RS17871566	Verification	rs17871566	ss28451907	A/G	A/G	1	138583183	UMD3.1	ARS-USMARC-Parent-AY943841-rs17871566-0_B_R_1544362784
ARS-USMARC-PARENT-DQ381152-RS29002408	Verification	rs29002408	ss38339879	T/A	A/T	17	17616950	UMD3.1	ARS-USMARC-Parent-DQ381152-rs29002408-0_T_R_1511686131
ARS-USMARC-PARENT-DQ381153-RS29012842	Verification	rs29012842	ss38323940	T/G	A/C	1	3249057	UMD3.1	ARS-USMARC-Parent-DQ381153-rs29012842-0_B_F_1511686340
ARS-USMARC-PARENT-DQ404149-NO-RS	Verification	rs42939801	ss117966457	T/C	A/G	1	99314925	UMD3.1	ARS-USMARC-Parent-DQ404149-no-rs-0_B_F_1511686220
ARS-USMARC-PARENT-DQ404150-RS29012530	Verification	rs29012530	ss38323621	T/G	A/C	1	59409838	UMD3.1	ARS-USMARC-Parent-DQ404150-rs29012530-0_B_F_1511686232
ARS-USMARC-PARENT-DQ404151-RS29019282	Verification	rs29019282	ss38327170	T/C	A/G	1	151349514	UMD3.1	ARS-USMARC-Parent-DQ404151-rs29019282-0_B_F_1511686396
ARS-USMARC-PARENT-DQ404152-RS29022245	Verification	rs29022245	ss38330740	A/G	A/G	2	5306838	UMD3.1	ARS-USMARC-Parent-DQ404152-rs29022245-0_B_R_1511686398
ARS-USMARC-PARENT-DQ404153-NO-RS	Verification	rs110843280	ss117974529	T/C	A/G	29	44756502	UMD3.1	ARS-USMARC-Parent-DQ404153-no-rs-0_B_F_1544362792
ARS-USMARC-PARENT-DQ435443-RS29010802	Verification	rs29010802	ss38325087	A/C	A/C	3	58040470	UMD3.1	ARS-USMARC-Parent-DQ435443-rs29010802-0_B_R_1511686400
ARS-USMARC-PARENT-DQ451555-RS29010795	Verification	rs29010795	ss38325080	A/G	A/G	1	29524658	UMD3.1	ARS-USMARC-Parent-DQ451555-rs29010795-0_B_R_1511686404

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
ARS-USMARC-PARENT-DQ468384-RS29003967	Verification	rs17871378	ss28451719	T/G	A/C	5	113137320	UMD3.1	ARS-USMARC-Parent-DQ468384-rs29003967-0_T_R_1511686215
ARS-USMARC-PARENT-DQ470475-NO-RS	Verification	rs43710106	ss117967919	T/A	A/T	5	7651053	UMD3.1	ARS-USMARC-Parent-DQ470475-no-rs-0_B_F_1511686348
ARS-USMARC-PARENT-DQ489377-RS29026932	Verification	rs29026932	ss38329318	T/C	A/G	3	98188384	UMD3.1	ARS-USMARC-Parent-DQ489377-rs29026932-v2-1_B_F_1924250892
ARS-USMARC-PARENT-DQ500958-NO-RS	Verification	rs43708500	ss117967922	A/G	A/G	5	27825118	UMD3.1	ARS-USMARC-Parent-DQ500958-no-rs-0_T_F_1511686177
ARS-USMARC-PARENT-DQ647186-RS29014143	Verification	rs29014143	ss38323045	A/G	A/G	4	17200594	UMD3.1	ARS-USMARC-Parent-DQ647186-rs29014143-0_T_F_1511686097
ARS-USMARC-PARENT-DQ647187-RS29010510	Verification	rs29010510	ss38325021	A/G	A/G	3	21146877	UMD3.1	ARS-USMARC-Parent-DQ647187-rs29010510-0_T_F_1511686203
ARS-USMARC-PARENT-DQ647189-RS29012226	Verification	rs29012226	ss38323313	T/C	A/G	5	63273386	UMD3.1	ARS-USMARC-Parent-DQ647189-rs29012226-0_B_F_1511686076
ARS-USMARC-PARENT-DQ647190-RS29013632	Verification	rs29013632	ss38322528	A/G	A/G	6	13897068	UMD3.1	ARS-USMARC-Parent-DQ647190-rs29013632-0_B_R_1511686282
ARS-USMARC-PARENT-DQ650635-RS29012174	Verification	rs29012174	ss38323259	T/C	A/G	7	55116289	UMD3.1	ARS-USMARC-Parent-DQ650635-rs29012174-0_B_F_1511686366
ARS-USMARC-PARENT-DQ650636-RS29024525	Verification	rs29024525	ss38334625	T/C	A/G	8	28799249	UMD3.1	ARS-USMARC-Parent-DQ650636-rs29024525-0_B_F_1511686124
ARS-USMARC-PARENT-DQ674265-RS29011266	Verification	rs29011266	ss38325554	T/C	A/G	8	106174871	UMD3.1	ARS-USMARC-Parent-DQ674265-rs29011266-0_T_R_1511686025
ARS-USMARC-PARENT-DQ786757-RS29019900	Verification	rs29019900	ss38327796	A/G	A/G	2	111155237	UMD3.1	ARS-USMARC-Parent-DQ786757-rs29019900-0_T_F_1511685817
ARS-USMARC-PARENT-DQ786758-RS29024430	Verification	rs29024430	ss38334530	T/G	A/C	7	18454636	UMD3.1	ARS-USMARC-Parent-DQ786758-rs29024430-0_T_R_1511686389
ARS-USMARC-PARENT-DQ786759-RS29026696	Verification	rs29026696	ss38329081	A/G	A/G	7	94259472	UMD3.1	ARS-USMARC-Parent-DQ786759-rs29026696-0_B_R_1511686192
ARS-USMARC-PARENT-DQ786761-RS29012840	Verification	rs29012840	ss38323938	T/C	A/G	10	44103665	UMD3.1	ARS-USMARC-Parent-DQ786761-rs29012840-0_B_F_1511685832
ARS-USMARC-PARENT-DQ786762-RS29010772	Verification	rs29010772	ss38325057	T/G	A/C	10	81572252	UMD3.1	ARS-USMARC-Parent-DQ786762-rs29010772-0_T_R_1511685887
ARS-USMARC-PARENT-DQ786763-RS29020472	Verification	rs29020472	ss38328160	A/T	A/T	12	11824653	UMD3.1	ARS-USMARC-Parent-DQ786763-rs29020472-0_B_R_1511686292

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
ARS-USMARC-PARENT-DQ786764-NO-RS	Verification	rs109943112	ss117970659	T/G	A/C	12	25668974	UMD3.1	ARS-USMARC-Parent-DQ786764-no-rs-0_T_R_1511686313
ARS-USMARC-PARENT-DQ786766-RS29012070	Verification	rs29012070	ss38323155	A/G	A/G	10	3530271	UMD3.1	ARS-USMARC-Parent-DQ786766-rs29012070-0_B_R_1511686058
ARS-USMARC-PARENT-DQ789028-RS29017713	Verification	rs29017713	ss38334020	T/C	A/G	6	46936182	UMD3.1	ARS-USMARC-Parent-DQ789028-rs29017713-0_B_F_1511686254
ARS-USMARC-PARENT-DQ837643-RS29018818	Verification	rs29018818	ss38335912	A/G	A/G	11	66341589	UMD3.1	ARS-USMARC-Parent-DQ837643-rs29018818-0_T_F_1511685855
ARS-USMARC-PARENT-DQ837644-RS29010468	Verification	rs29010468	ss38324977	A/C	A/C	8	88974063	UMD3.1	ARS-USMARC-Parent-DQ837644-rs29010468-0_B_R_1511686264
ARS-USMARC-PARENT-DQ837645-RS29015870	Verification	rs29015870	ss38332364	T/C	A/G	11	24553007	UMD3.1	ARS-USMARC-Parent-DQ837645-rs29015870-0_B_F_1511685930
ARS-USMARC-PARENT-DQ839235-RS29012691	Verification	rs29012691	ss38323789	A/C	A/C	3	116448759	UMD3.1	ARS-USMARC-Parent-DQ839235-rs29012691-0_B_R_1511686108
ARS-USMARC-PARENT-DQ846688-RS29023691	Verification	rs29023691	ss38336986	T/C	A/G	5	119261609	UMD3.1	ARS-USMARC-Parent-DQ846688-rs29023691-0_T_R_1511686201
ARS-USMARC-PARENT-DQ846690-NO-RS	Verification	rs43710049	ss117971671	T/C	A/G	14	10171919	UMD3.1	ARS-USMARC-Parent-DQ846690-no-rs-0_B_F_1511686328
ARS-USMARC-PARENT-DQ846691-RS29019814	Verification	rs29019814	ss38327708	T/C	A/G	14	48380429	UMD3.1	ARS-USMARC-Parent-DQ846691-rs29019814-0_B_F_1511686062
ARS-USMARC-PARENT-DQ846692-RS29010281	Verification	rs29010281	ss38324786	A/G	A/G	14	80082923	UMD3.1	ARS-USMARC-Parent-DQ846692-rs29010281-0_T_F_1511685981
ARS-USMARC-PARENT-DQ846693-RS29017621	Verification	rs29017621	ss38333927	A/G	A/G	16	9855276	UMD3.1	ARS-USMARC-Parent-DQ846693-rs29017621-0_T_F_1511685979
ARS-USMARC-PARENT-DQ866817-NO-RS	Verification	rs43706884	ss117971908	A/G	A/G	15	38078775	UMD3.1	ARS-USMARC-Parent-DQ866817-no-rs-0_T_F_1511686325
ARS-USMARC-PARENT-DQ866818-RS29011701	Verification	rs29011701	ss38325997	A/C	A/C	15	79187295	UMD3.1	ARS-USMARC-Parent-DQ866818-rs29011701-0_T_F_1511686199
ARS-USMARC-PARENT-DQ888309-RS29013741	Verification	rs29013741	ss38322638	T/G	A/C	7	8272794	UMD3.1	ARS-USMARC-Parent-DQ888309-rs29013741-0_B_F_1511686294
ARS-USMARC-PARENT-DQ888310-RS29012422	Verification	rs29012422	ss38323509	A/C	A/C	17	991486	UMD3.1	ARS-USMARC-Parent-DQ888310-rs29012422-0_T_F_1511686239
ARS-USMARC-PARENT-DQ888311-RS29017313	Verification	rs29017313	ss38333605	A/C	A/C	19	8505317	UMD3.1	ARS-USMARC-Parent-DQ888311-rs29017313-0_T_F_1544362775

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
ARS-USMARC-PARENT-DQ888313-NO-RS	Verification	rs43708490	ss117972867	T/C	A/G	20	17837675	UMD3.1	ARS-USMARC-Parent-DQ888313-no-rs-0_B_F_1544362772
ARS-USMARC-PARENT-DQ916057-RS29009979	Verification	rs29009979	ss38324475	T/A	A/T	7	81591587	UMD3.1	ARS-USMARC-Parent-DQ916057-rs29009979-0_B_F_1511685798
ARS-USMARC-PARENT-DQ916058-RS29016146	Verification	rs29016146	ss38332645	A/G	A/G	8	1554706	UMD3.1	ARS-USMARC-Parent-DQ916058-rs29016146-0_T_F_1511686287
ARS-USMARC-PARENT-DQ916059-RS29009907	Verification	rs29009907	ss38324402	T/C	A/G	18	23426214	UMD3.1	ARS-USMARC-Parent-DQ916059-rs29009907-0_B_F_1511685808
ARS-USMARC-PARENT-DQ984825-RS29012457	Verification	rs29012457	ss38323545	T/C	A/G	10	98230479	UMD3.1	ARS-USMARC-Parent-DQ984825-rs29012457-0_T_R_1511686053
ARS-USMARC-PARENT-DQ984826-RS29027559	Verification	rs29027559	ss38329949	T/A	A/T	14	27751888	UMD3.1	ARS-USMARC-Parent-DQ984826-rs29027559-0_B_F_1511686362
ARS-USMARC-PARENT-DQ984827-RS29012019	Verification	rs29012019	ss38323104	T/C	A/G	10	55611885	UMD3.1	ARS-USMARC-Parent-DQ984827-rs29012019-0_T_R_1511686393
ARS-USMARC-PARENT-DQ990832-RS29015065	Verification	rs29015065	ss38326759	A/G	A/G	22	11038205	UMD3.1	ARS-USMARC-Parent-DQ990832-rs29015065-0_B_R_1511686084
ARS-USMARC-PARENT-DQ990833-RS29010147	Verification	rs29010147	ss38324647	A/G	A/G	24	15447771	UMD3.1	ARS-USMARC-Parent-DQ990833-rs29010147-0_T_F_1511685823
ARS-USMARC-PARENT-DQ990834-RS29013727	Verification	rs29013727	ss38322624	A/G	A/G	26	8221270	UMD3.1	ARS-USMARC-Parent-DQ990834-rs29013727-0_B_R_1511686280
ARS-USMARC-PARENT-DQ995976-NO-RS	Verification	rs43706859	ss117973059	T/C	A/G	21	3088886	UMD3.1	ARS-USMARC-Parent-DQ995976-no-rs-0_B_F_1511686372
ARS-USMARC-PARENT-DQ995977-RS29020834	Verification	rs29020834	ss38328525	T/C	A/G	24	1854953	UMD3.1	ARS-USMARC-Parent-DQ995977-rs29020834-0_T_R_1511686267
ARS-USMARC-PARENT-EF026084-RS29025380	Verification	rs29025380	ss38331266	T/C	A/G	19	15345312	UMD3.1	ARS-USMARC-Parent-EF026084-rs29025380-0_T_R_1511686165
ARS-USMARC-PARENT-EF026086-RS29013660	Verification	rs29013660	ss38322556	T/C	A/G	28	35331560	UMD3.1	ARS-USMARC-Parent-EF026086-rs29013660-0_B_F_1511686344
ARS-USMARC-PARENT-EF026087-RS29011643	Verification	rs29011643	ss38325939	T/C	A/G	13	1982209	UMD3.1	ARS-USMARC-Parent-EF026087-rs29011643-0_T_R_1511686381
ARS-USMARC-PARENT-EF028073-RS29014953	Verification	rs29014953	ss38326646	T/C	A/G	18	1839733	UMD3.1	ARS-USMARC-Parent-EF028073-rs29014953-0_T_R_1511686033
ARS-USMARC-PARENT-EF034080-RS29024749	Verification	rs29024749	ss38334851	A/G	A/G	29	28647816	UMD3.1	ARS-USMARC-Parent-EF034080-rs29024749-0_T_F_1511685993

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
ARS-USMARC-PARENT-EF034081-RS29009668	Verification	rs29009668	ss38324161	A/T	A/T	13	25606469	UMD3.1	ARS-USMARC-Parent-EF034081-rs29009668-F2BT-1_T_F_1923529952
ARS-USMARC-PARENT-EF034082-RS29013532	Verification	rs29013532	ss38322427	A/G	A/G	22	56526462	UMD3.1	ARS-USMARC-Parent-EF034082-rs29013532-0_T_F_1511686117
ARS-USMARC-PARENT-EF034083-RS29018286	Verification	rs29018286	ss38335376	T/G	A/C	25	3126438	UMD3.1	ARS-USMARC-Parent-EF034083-rs29018286-0_B_F_1511686194
ARS-USMARC-PARENT-EF034084-RS29016185	Verification	rs29016185	ss38332685	C/G	C/G	27	21480570	UMD3.1	ARS-USMARC-Parent-EF034084-rs29016185-0_T_F_1511686171
ARS-USMARC-PARENT-EF034085-RS29025677	Verification	rs29025677	ss38331569	A/G	A/G	28	5913226	UMD3.1	ARS-USMARC-Parent-EF034085-rs29025677-0_B_R_1511685872
ARS-USMARC-PARENT-EF034086-NO-RS	Verification	rs43708440	ss117974174	T/C	A/G	26	38233337	UMD3.1	ARS-USMARC-Parent-EF034086-no-rs-0_T_R_1511686083
ARS-USMARC-PARENT-EF034087-NO-RS	Verification	rs110665639	ss117974397	T/C	A/G	28	16097749	UMD3.1	ARS-USMARC-Parent-EF034087-no-rs-0_B_F_1511686140
ARS-USMARC-PARENT-EF042090-NO-RS	Verification	rs43708441	ss117971911	A/G	A/G	15	21207529	UMD3.1	ARS-USMARC-Parent-EF042090-no-rs-0_T_F_1511686079
ARS-USMARC-PARENT-EF042091-RS29014974	Verification	rs29014974	ss38326667	A/G	A/G	28	44261945	UMD3.1	ARS-USMARC-Parent-EF042091-rs29014974-0_B_R_1511686334
ARS-USMARC-PARENT-EF093509-RS29015170	Verification	rs29015170	ss38326868	T/A	A/T	22	22573121	UMD3.1	ARS-USMARC-Parent-EF093509-rs29015170-0_B_F_1511686160
ARS-USMARC-PARENT-EF093511-RS29012316	Verification	rs29012316	ss38323403	T/G	A/C	21	26620013	UMD3.1	ARS-USMARC-Parent-EF093511-rs29012316-0_B_F_1511686206
ARS-USMARC-PARENT-EF093512-RS29013546	Verification	rs29013546	ss38322441	G/C	C/G	27	15141319	UMD3.1	ARS-USMARC-Parent-EF093512-rs29013546-0_B_F_1511686298
ARS-USMARC-PARENT-EF141102-RS29015783	Verification	rs29015783	ss38332274	A/G	A/G	27	37513923	UMD3.1	ARS-USMARC-Parent-EF141102-rs29015783-0_B_R_1511686234
ARS-USMARC-PARENT-EF150946-RS29023666	Verification	rs29023666	ss38336959	A/G	A/G	26	13229219	UMD3.1	ARS-USMARC-Parent-EF150946-rs29023666-0_B_R_1511686350
ARS-USMARC-PARENT-EF164803-RS29011141	Verification	rs29011141	ss38325429	A/G	A/G	19	55174260	UMD3.1	ARS-USMARC-Parent-EF164803-rs29011141-0_T_F_1511686247
ARS-BFGL-BAC-19454	Verification	rs109516152	ss105246072	A/G	A/G	16	13695211	UMD3.1	ARS-BFGL-BAC-19454-0_B_R_1544342906
ARS-BFGL-BAC-27364	Verification	rs110487850	ss105254853	A/C	A/C	1	8437530	UMD3.1	ARS-BFGL-BAC-27364-0_T_F_1511663145

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
ARS-BFGL-BAC-35552	Verification	rs41256483	ss105263926	A/G	A/G	2	12823369	UMD3.1	ARS-BFGL-BAC-35552- O_T_F_1511664229
ARS-BFGL-NGS-10035	Verification	rs110008575	ss86293049	T/C	A/G	26	39952154	UMD3.1	ARS-BFGL-NGS-10035- O_T_R_1511669153
ARS-BFGL-NGS-101456	Verification	rs43526009	ss86330195	T/C	A/G	7	82825197	UMD3.1	ARS-BFGL-NGS-101456- O_T_R_1511669761
ARS-BFGL-NGS-102169	Verification	rs110612889	ss86332885	A/C	A/C	27	12930436	UMD3.1	ARS-BFGL-NGS-102169- O_B_R_1511667660
ARS-BFGL-NGS-106015	Verification	rs109496638	ss86287153	A/G	A/G	6	61199572	UMD3.1	ARS-BFGL-NGS-106015- O_T_F_1511678403
ARS-BFGL-NGS-111053	Verification	rs110813850	ss86339707	T/C	A/G	5	72264603	UMD3.1	ARS-BFGL-NGS-111053- O_B_F_1511637622
ARS-BFGL-NGS-111076	Verification	rs110551361	ss86336856	T/C	A/G	21	21220448	UMD3.1	ARS-BFGL-NGS-111076- O_B_F_1511637826
ARS-BFGL-NGS-111114	Verification	rs43645607	ss86341013	T/G	A/C	10	84446642	UMD3.1	ARS-BFGL-NGS-111114- O_B_F_1511638490
ARS-BFGL-NGS-112094	Verification	rs109458348	ss86339335	T/C	A/G	13	69187742	UMD3.1	ARS-BFGL-NGS-112094- O_T_R_1511638821
ARS-BFGL-NGS-112325	Verification	rs110072997	ss86337040	T/C	A/G	12	79643103	UMD3.1	ARS-BFGL-NGS-112325- O_B_F_1511648300
ARS-BFGL-NGS-11383	Verification	rs110577061	ss86325850	A/G	A/G	17	12891997	UMD3.1	ARS-BFGL-NGS-11383- O_B_R_1511679786
ARS-BFGL-NGS-114006	Verification	rs109737083	ss86339571	A/G	A/G	25	20114319	UMD3.1	ARS-BFGL-NGS-114006- O_B_R_1511648580
ARS-BFGL-NGS-115514	Verification	rs109164374	ss86339408	A/G	A/G	15	38003134	UMD3.1	ARS-BFGL-NGS-115514- O_B_R_1511652602
ARS-BFGL-NGS-117319	Verification	rs42413708	ss86335720	A/G	A/G	16	12238539	UMD3.1	ARS-BFGL-NGS-117319- O_T_F_1511653303
ARS-BFGL-NGS-117322	Verification	rs109998259	ss86339948	A/G	A/G	11	77884744	UMD3.1	ARS-BFGL-NGS-117322- O_T_F_1511654061
ARS-BFGL-NGS-118319	Verification	rs110473808	ss86335543	A/C	A/C	17	9279323	UMD3.1	ARS-BFGL-NGS-118319- O_T_F_1511654651
ARS-BFGL-NGS-118340	Verification	rs110706775	ss86338640	T/G	A/C	18	26844474	UMD3.1	ARS-BFGL-NGS-118340- O_B_F_1511653716

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
ARS-BFGL-NGS-119662	Verification	rs108959343	ss86340083	A/G	A/G	6	118292328	UMD3.1	ARS-BFGL-NGS-119662-0_B_R_1511658296
ARS-BFGL-NGS-14740	Verification	rs109548782	ss86311604	A/G	A/G	9	14436985	UMD3.1	ARS-BFGL-NGS-14740-0_T_F_1544344933
ARS-BFGL-NGS-15506	Verification	rs109448272	ss86285779	T/C	A/G	5	88334676	UMD3.1	ARS-BFGL-NGS-15506-0_B_F_1511639440
ARS-BFGL-NGS-15731	Verification	rs110220596	ss86301690	T/C	A/G	7	96936145	UMD3.1	ARS-BFGL-NGS-15731-0_B_F_1511640156
ARS-BFGL-NGS-24419	Verification	rs42002380	ss86317653	T/C	A/G	22	11756783	UMD3.1	ARS-BFGL-NGS-24419-0_B_F_1511661234
ARS-BFGL-NGS-26517	Verification	rs109651210	ss86291238	A/G	A/G	21	52139183	UMD3.1	ARS-BFGL-NGS-26517-0_B_R_1544345992
ARS-BFGL-NGS-27577	Verification	rs110735554	ss86284992	A/G	A/G	7	26066004	UMD3.1	ARS-BFGL-NGS-27577-0_B_R_1511658878
ARS-BFGL-NGS-31640	Verification	rs108961088	ss86289247	A/G	A/G	9	52430564	UMD3.1	ARS-BFGL-NGS-31640-0_T_F_1544347209
ARS-BFGL-NGS-31807	Verification	rs43638065	ss86311676	A/G	A/G	10	61684704	UMD3.1	ARS-BFGL-NGS-31807-153_B_R_2084992678
ARS-BFGL-NGS-36513	Verification	rs110803034	ss86327338	A/G	A/G	19	17236707	UMD3.1	ARS-BFGL-NGS-36513-0_T_F_1544349663
ARS-BFGL-NGS-38423	Verification	rs110643545	ss86285582	A/G	A/G	3	12709854	UMD3.1	ARS-BFGL-NGS-38423-0_T_F_1511681877
ARS-BFGL-NGS-38620	Verification	rs41902634	ss86313444	A/G	A/G	18	64382705	UMD3.1	ARS-BFGL-NGS-38620-0_B_R_1511682206
ARS-BFGL-NGS-39978	Verification	rs110425983	ss86287493	A/G	A/G	2	5757355	UMD3.1	ARS-BFGL-NGS-39978-0_T_F_1544349913
ARS-BFGL-NGS-42283	Verification	rs109007372	ss86295624	T/C	A/G	11	95543411	UMD3.1	ARS-BFGL-NGS-42283-0_T_R_1511687559
ARS-BFGL-NGS-42505	Verification	rs109614825	ss86323142	A/G	A/G	14	62478242	UMD3.1	ARS-BFGL-NGS-42505-0_T_F_1511684693
ARS-BFGL-NGS-55943	Verification	rs110196141	ss86285855	T/C	A/G	15	64628706	UMD3.1	ARS-BFGL-NGS-55943-0_T_R_1511646111
ARS-BFGL-NGS-57711	Verification	rs110925558	ss86288575	A/G	A/G	19	40692429	UMD3.1	ARS-BFGL-NGS-57711-0_T_F_1511647417

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
ARS-BFGL-NGS-58613	Verification	rs42254761	ss86288950	A/G	A/G	4	78609385	UMD3.1	ARS-BFGL-NGS-58613-0_B_R_1511646378
ARS-BFGL-NGS-67146	Verification	rs109136926	ss86297381	T/C	A/G	2	118773633	UMD3.1	ARS-BFGL-NGS-67146-0_B_F_1544351966
ARS-BFGL-NGS-70946	Verification	rs109933901	ss86300858	A/C	A/C	10	14574453	UMD3.1	ARS-BFGL-NGS-70946-0_T_F_1511672045
ARS-BFGL-NGS-72471	Verification	rs109989231	ss86302621	A/C	A/C	7	103375625	UMD3.1	ARS-BFGL-NGS-72471-0_T_F_1511661821
ARS-BFGL-NGS-76191	Verification	rs110846944	ss86306783	A/G	A/G	11	62732451	UMD3.1	ARS-BFGL-NGS-76191-0_T_F_1511671491
ARS-BFGL-NGS-76330	Verification	rs109978585	ss86306259	A/G	A/G	28	33449126	UMD3.1	ARS-BFGL-NGS-76330-0_B_R_1544351882
ARS-BFGL-NGS-86662	Verification	rs110949105	ss86316540	T/G	A/C	1	40206017	UMD3.1	ARS-BFGL-NGS-86662-0_T_R_1511691827
ARS-BFGL-NGS-93119	Verification	rs109133051	ss86323810	T/C	A/G	9	28149131	UMD3.1	ARS-BFGL-NGS-93119-0_T_R_1511691943
ARS-BFGL-NGS-96125	Verification	rs42640153	ss86326564	A/G	A/G	20	58449212	UMD3.1	ARS-BFGL-NGS-96125-0_B_R_1511694234
ARS-BFGL-NGS-99210	Verification	rs110578763	ss86329428	T/C	A/G	17	52740918	UMD3.1	ARS-BFGL-NGS-99210-0_T_R_1511693633
ARS-USMARC-569	Verification	rs109650557	ss117962557	A/G	A/G	17	30360942	UMD3.1	ARS-USMARC-569-0_T_F_1544362799
ARS-USMARC-PARENT-AY841151-RS29003466	Verification	rs29003466	ss38340727	T/G	A/C	2	45832887	UMD3.1	ARS-USMARC-Parent-AY841151-rs29003466-0_T_R_1544362781
ARS-USMARC-PARENT-DQ786765-RS29009858	Verification	rs29009858	ss38324353	T/G	A/C	9	98483346	UMD3.1	ARS-USMARC-Parent-DQ786765-rs29009858-0_B_F_1511686274
ARS-USMARC-PARENT-EF026085-RS29021607	Verification	rs29021607	ss38330092	A/C	A/C	21	65198296	UMD3.1	ARS-USMARC-Parent-EF026085-rs29021607-0_B_R_1511685904
ARS-USMARC-PARENT-EF089234-RS29020870	Verification	rs29020870	ss38328561	A/T	A/T	23	50884052	UMD3.1	ARS-USMARC-Parent-EF089234-rs29020870-0_T_F_1511686061
BTA-100621-NO-RS	Verification	rs41611675	ss61512369	A/G	A/G	22	25598780	UMD3.1	BTA-100621-no-rs-0_T_F_1511593240
BTA-11701-RS29017459	Verification	rs29017459	ss38333753	T/C	A/G	11	61989432	UMD3.1	BTA-11701-rs29017459-0_B_F_1511622709

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BTA-30857-NO-RS	Verification	rs41579524	ss61479561	A/G	A/G	12	80058952	UMD3.1	BTA-30857-no-rs-0_T_F_1511625792
BTA-37062-NO-RS	Verification	rs41632769	ss61536141	T/G	A/C	15	51528617	UMD3.1	BTA-37062-no-rs-0_B_F_1511533983
BTA-73768-NO-RS	Verification	rs41647805	ss61555892	T/C	A/G	5	67031023	UMD3.1	BTA-73768-no-rs-0_T_R_1511550568
BTA-92021-NO-RS	Verification	rs41663009	ss61565762	A/T	A/T	11	9385008	UMD3.1	BTA-92021-no-rs-0_B_R_1511548279
BTB-00188171	Verification	rs43396375	ss65312019	A/G	A/G	4	57787437	UMD3.1	BTB-00188171-v2-1_T_F_1924252375
BTB-00394801	Verification	rs43599414	ss65518069	A/C	A/C	9	59383405	UMD3.1	BTB-00394801-0_T_F_1511574086
BTB-00420215	Verification	rs43625528	ss65543436	A/C	A/C	10	44920804	UMD3.1	BTB-00420215-0_T_F_1511581596
BTB-00818821	Verification	rs41981646	ss62736870	A/G	A/G	21	40408803	UMD3.1	BTB-00818821-0_B_R_1544355596
BTB-01057979	Verification	rs42223561	ss63390705	T/C	A/G	1	114085424	UMD3.1	BTB-01057979-0_T_R_1511598216
BTB-01285245	Verification	rs42411615	ss63968561	T/C	A/G	1	63277846	UMD3.1	BTB-01285245-0_B_F_1511617607
BTB-01371672	Verification	rs42492955	ss64140877	T/C	A/G	15	50566485	UMD3.1	BTB-01371672-0_T_R_1544358117
BTB-01416427	Verification	rs42537334	ss64230252	T/C	A/G	19	52911677	UMD3.1	BTB-01416427-0_T_R_1511613730
BTB-01478115	Verification	rs42595691	ss64353011	A/G	A/G	4	42103377	UMD3.1	BTB-01478115-0_T_F_1511627148
BTB-01902778	Verification	rs43014084	ss64919224	A/G	A/G	6	114165533	UMD3.1	BTB-01902778-0_B_R_1511543811
BTB-01980499	Verification	rs43084864	ss64996227	T/C	A/G	12	61345454	UMD3.1	BTB-01980499-0_T_R_1511562008
HAPMAP24215-BTA-163266	Verification	rs109704141	ss117974193	T/G	A/C	27	10764825	UMD3.1	Hapmap24215-BTA-163266-0_B_F_1510715935
HAPMAP31098-BTA-136127	Verification	rs109479519	ss117972951	T/C	A/G	21	62028408	UMD3.1	Hapmap31098-BTA-136127-0_T_R_1510715012

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
HAPMAP34424-BES10_CONTIG566_926	Verification	rs43708462	ss66538092	A/G	A/G	24	6408329	UMD3.1	Hapmap34424-BES10_Contig566_926-0_T_F_1510715130
HAPMAP35535-SCAFFOLD86180_8791	Verification	rs29023461	ss117973345	T/C	A/G	23	41700829	UMD3.1	Hapmap35535-SCAFFOLD86180_8791-0_B_F_1511627625
HAPMAP36588-SCAFFOLD90561_9460	Verification	rs29023669	ss117972848	A/G	A/G	20	2289049	UMD3.1	Hapmap36588-SCAFFOLD90561_9460-0_B_R_1511629069
HAPMAP39425-BTA-70290	Verification	rs41586923	ss61489805	T/G	A/C	4	10737673	UMD3.1	Hapmap39425-BTA-70290-0_T_R_1509317762
HAPMAP39461-BTA-109898	Verification	rs41611358	ss61517053	T/G	A/C	21	27927781	UMD3.1	Hapmap39461-BTA-109898-0_B_F_1509322909
HAPMAP40148-BTA-92999	Verification	rs41592395	ss61495728	T/G	A/C	11	36713471	UMD3.1	Hapmap40148-BTA-92999-0_T_R_1509312964
HAPMAP40729-BTA-40319	Verification	rs41635414	ss61537824	T/C	A/G	16	19882683	UMD3.1	Hapmap40729-BTA-40319-0_B_F_1509322497
HAPMAP41591-BTA-59790	Verification	rs41649671	ss117973994	T/C	A/G	25	27912102	UMD3.1	Hapmap41591-BTA-59790-0_B_F_1509322371
HAPMAP42648-BTA-71195	Verification	rs41653000	ss61554558	T/C	A/G	4	71061224	UMD3.1	Hapmap42648-BTA-71195-0_T_R_1511567042
HAPMAP43057-BTA-80741	Verification	rs41588251	ss61492499	T/C	A/G	7	13279972	UMD3.1	Hapmap43057-BTA-80741-0_B_F_1511566361
HAPMAP43142-BTA-107561	Verification	rs41567696	ss61472156	A/G	A/G	6	29556343	UMD3.1	Hapmap43142-BTA-107561-0_B_R_1511566213
HAPMAP43792-BTA-122725	Verification	rs41620645	ss61524403	T/C	A/G	13	83437845	UMD3.1	Hapmap43792-BTA-122725-0_T_R_1511566454
HAPMAP43953-BTA-83292	Verification	rs41656801	ss61561086	A/G	A/G	22	54103673	UMD3.1	Hapmap43953-BTA-83292-0_B_R_1509287143
HAPMAP46550-BTA-103548	Verification	rs41615770	ss61513810	A/T	A/T	20	30928803	UMD3.1	Hapmap46550-BTA-103548-0_B_R_1509274573
HAPMAP46653-BTA-47447	Verification	rs41573026	ss61467906	T/A	A/T	2	41938704	UMD3.1	Hapmap46653-BTA-47447-0_T_R_1509284426
HAPMAP47281-BTA-40051	Verification	rs41582312	ss61481907	A/G	A/G	16	72931875	UMD3.1	Hapmap47281-BTA-40051-0_B_R_1511577277
HAPMAP49452-BTA-112834	Verification	rs41569794	ss61473375	A/G	A/G	4	72987997	UMD3.1	Hapmap49452-BTA-112834-0_B_R_1509305577

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
HAPMAP50598-BTA-122724	Verification	rs41575075	ss61475502	A/G	A/G	19	4670556	UMD3.1	Hapmap50598-BTA-122724-0_B_R_1511601629
HAPMAP51227-BTA-41809	Verification	rs41634345	ss61538562	A/G	A/G	17	67216420	UMD3.1	Hapmap51227-BTA-41809-0_T_F_1511602462
HAPMAP51527-BTA-97415	Verification	rs41665299	ss61568611	A/G	A/G	6	44461834	UMD3.1	Hapmap51527-BTA-97415-0_B_R_1509318683
HAPMAP51908-BTA-63031	Verification	rs41648007	ss61550226	T/C	A/G	27	41049981	UMD3.1	Hapmap51908-BTA-63031-0_T_R_1509319646
HAPMAP52240-RS29013844	Verification	rs29013844	ss38322744	T/G	A/C	28	20453054	UMD3.1	Hapmap52240-rs29013844-0_T_R_1511602284
HAPMAP54020-RS29023153	Verification	rs29023153	ss38336442	A/G	A/G	18	6776532	UMD3.1	Hapmap54020-rs29023153-0_T_F_1509313606
HAPMAP54313-RS29012632	Verification	rs29012632	ss38323727	T/C	A/G	9	83320792	UMD3.1	Hapmap54313-rs29012632-0_T_R_1511548090
HAPMAP54547-RS29012198	Verification	rs29012198	ss38323285	T/C	A/G	4	110776624	UMD3.1	Hapmap54547-rs29012198-0_T_R_1509327754
HAPMAP55441-RS29010990	Verification	rs29010990	ss38325276	A/G	A/G	8	103137122	UMD3.1	Hapmap55441-rs29010990-0_B_R_1509329479
HAPMAP59876-RS29018046	Verification	rs29018046	ss38335133	A/G	A/G	2	13853729	UMD3.1	Hapmap59876-rs29018046-0_B_R_1509290295
HAPMAP60017-RS29023471	Verification	rs29023471	ss38336762	A/G	A/G	7	81668727	UMD3.1	Hapmap60017-rs29023471-0_T_F_1511552944
UA-IFASA-5034	Verification	rs29024763	ss117965805	T/C	A/G	29	29052623	UMD3.1	UA-IFASA-5034-0_B_F_1511686988
UA-IFASA-6532	Verification	rs41640891	ss117965542	T/C	A/G	22	21770149	UMD3.1	UA-IFASA-6532-0_B_F_1511687122
BTA-108007-no-rs	Discovery	rs41664832	ss61570066	T/G	A/C	1	116419981	UMD3.1	BTA-108007-no-rs-0_B_F_1511607063
Hapmap49586-BTA-36632	Discovery	rs41582641	ss61481018	A/G	A/G	1	79700956	UMD3.1	Hapmap49586-BTA-36632-0_T_F_1509284406
ARS-BFGL-NGS-103086	Discovery	rs109595377	ss86330023	A/G	A/G	2	2858436	UMD3.1	ARS-BFGL-NGS-103086-0_T_F_1511673189
BTB-01294230	Discovery	rs42418154	ss63986515	A/G	A/G	2	55038193	UMD3.1	BTB-01294230-0_B_R_1544352864

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
Hapmap44202-BTA-115270	Discovery	rs41620314	ss61519990	A/G	A/G	2	62367003	UMD3.1	Hapmap44202-BTA-115270-0_T_F_1509288282
Hapmap53350-ss46526471	Discovery	rs41256934	ss46526471	T/C	A/G	2	125653839	UMD3.1	Hapmap53350-ss46526471-0_T_R_1511618084
ARS-BFGL-NGS-116451	Discovery	rs42527283	ss86340874	A/C	A/C	3	114252911	UMD3.1	ARS-BFGL-NGS-116451-0_T_F_1511652913
ARS-BFGL-NGS-99338	Discovery	rs110474631	ss86327855	T/C	A/G	3	21869985	UMD3.1	ARS-BFGL-NGS-99338-0_B_F_1511693580
ARS-USMARC-Parent-DQ422950-rs29012306	Discovery	rs29012306	ss38323393	A/C	A/C	3	3129167	UMD3.1	ARS-USMARC-Parent-DQ422950-rs29012306-0_T_F_1511685891
BTA-99693-no-rs	Discovery	rs41596848	ss61497421	T/C	A/G	3	39522643	UMD3.1	BTA-99693-no-rs-0_T_R_1511575788
Hapmap39765-BTA-62582	Discovery	rs41646786	ss61549999	A/C	A/C	3	99317016	UMD3.1	Hapmap39765-BTA-62582-0_T_F_1509323564
ARS-BFGL-NGS-51490	Discovery	rs109483098	ss86281895	G/C	C/G	5	16522966	UMD3.1	ARS-BFGL-NGS-51490-0_B_F_1511692974
BTB-01498887	Discovery	rs42620770	ss64394240	T/C	A/G	5	97111	UMD3.1	BTB-01498887-0_T_R_1511627014
Hapmap50084-BTA-74042	Discovery	rs41650242	ss61556030	T/C	A/G	5	75417666	UMD3.1	Hapmap50084-BTA-74042-0_T_R_1511601574
ARS-BFGL-NGS-2141	Discovery	rs110850872	ss86295109	T/C	A/G	7	16371434	UMD3.1	ARS-BFGL-NGS-2141-0_T_R_1511649691
ARS-BFGL-NGS-61492	Discovery	rs110210825	ss86290741	T/C	A/G	7	70011889	UMD3.1	ARS-BFGL-NGS-61492-0_T_R_1511652427
BTA-09064-rs29025231	Discovery	rs29025231	ss38331116	A/C	A/C	7	112265796	UMD3.1	BTA-09064-rs29025231-0_B_R_1511596353
ARS-BFGL-NGS-28141	Discovery	rs109555469	ss86325310	T/C	A/G	8	97241486	UMD3.1	ARS-BFGL-NGS-28141-0_B_F_1544346378
UA-IFASA-2534	Discovery	rs29009895	ss117963993	T/C	A/G	8	45804905	UMD3.1	UA-IFASA-2534-0_T_R_1511685815
ARS-USMARC-Parent-DQ837646-rs29012894	Discovery	rs29012894	ss38323993	A/C	A/C	11	1703612	UMD3.1	ARS-USMARC-Parent-DQ837646-rs29012894-0_T_F_1511686081
BTA-88608-no-rs	Discovery	rs41597697	ss61494512	A/G	A/G	11	24317047	UMD3.1	BTA-88608-no-rs-0_T_F_1511561294

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
Hapmap41140-BTA-107332	Discovery	rs41616688	ss61515739	T/C	A/G	11	78545016	UMD3.1	Hapmap41140-BTA-107332-0_T_R_1511629008
BTA-92697-no-rs	Discovery	rs41661000	ss61566157	T/C	A/G	13	50910557	UMD3.1	BTA-92697-no-rs-0_T_R_1511561324
Hapmap39398-BTA-31996	Discovery	rs41632359	ss61533405	A/C	A/C	13	26708860	UMD3.1	Hapmap39398-BTA-31996-0_T_F_1509317720
Hapmap48136-BTA-96744	Discovery	rs41663038	ss61568240	T/C	A/G	13	719908	UMD3.1	Hapmap48136-BTA-96744-0_T_R_1509285590
ARS-USMARC-Parent-DQ888312-rs29015945	Discovery	rs29015945	ss38332442	A/G	A/G	19	36437188	UMD3.1	ARS-USMARC-Parent-DQ888312-rs29015945-0_B_R_1511685970
Hapmap39390-BTA-22146	Discovery	rs41630136	ss61528095	T/G	A/C	19	4509536	UMD3.1	Hapmap39390-BTA-22146-0_T_R_1511627958
ARS-BFGL-NGS-19437	Discovery	rs110023442	ss86302854	T/C	A/G	21	47400719	UMD3.1	ARS-BFGL-NGS-19437-0_T_R_1511645885
Hapmap35472-SCAFFOLD35342_21388	Discovery	rs29017723	ss117973024	T/C	A/G	21	66107076	UMD3.1	Hapmap35472-SCAFFOLD35342_21388-0_B_F_1511627671
ARS-BFGL-NGS-35219	Discovery	rs108960855	ss86324609	T/C	A/G	4	106885171	UMD3.1	ARS-BFGL-NGS-35219-0_T_R_1511675805
ARS-USMARC-Parent-DQ485413-no-rs	Discovery	rs41590225	ss140469302	T/C	A/G	4	94176209	UMD3.1	ARS-USMARC-Parent-DQ485413-no-rs-0_B_F_1511686038
BTA-82216-no-rs	Discovery	rs41590598	ss61492850	A/G	A/G	4	52308430	UMD3.1	BTA-82216-no-rs-0_T_F_1511543206
BTB-01902057	Discovery	rs43013883	ss64918503	T/C	A/G	4	6604523	UMD3.1	BTB-01902057-0_T_R_1511552598
ARS-USMARC-Parent-AY849380-no-rs	Discovery	rs41255758	ss49846084	A/G	A/G	6	90562665	UMD3.1	ARS-USMARC-Parent-AY849380-no-rs-0_T_F_1511686037
Hapmap50460-BTA-75791	Discovery	rs41595940	ss61491244	T/C	A/G	6	8478503	UMD3.1	Hapmap50460-BTA-75791-0_B_F_1509303979
ARS-BFGL-NGS-26056	Discovery	rs110616633	ss86285011	A/G	A/G	9	3651455	UMD3.1	ARS-BFGL-NGS-26056-0_T_F_1544346887
ARS-BFGL-NGS-3465	Discovery	rs109170761	ss86314662	A/G	A/G	9	87606681	UMD3.1	ARS-BFGL-NGS-3465-0_B_R_1511665702
ARS-USMARC-Parent-DQ846689-rs29011985	Discovery	rs29011985	ss38323070	A/G	A/G	9	45729853	UMD3.1	ARS-USMARC-Parent-DQ846689-rs29011985-0_B_R_1511686290

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
ARS-BFGL-NGS-35455	Discovery	rs110493467	ss86298634	A/G	A/G	10	10795992	UMD3.1	ARS-BFGL-NGS-35455-0_B_R_1511674364
Hapmap25493-BTA-109827	Discovery	rs43711263	ss61498362	T/C	A/G	10	4383927	UMD3.1	Hapmap25493-BTA-109827-0_B_F_1511587427
ARS-USMARC-Parent-DQ832700-rs29012872	Discovery	rs29012872	ss38323971	A/C	A/C	12	80629629	UMD3.1	ARS-USMARC-Parent-DQ832700-rs29012872-0_B_R_1511686106
BTA-23867-no-rs	Discovery	rs41630989	ss61528978	A/G	A/G	12	50865733	UMD3.1	BTA-23867-no-rs-0_T_F_1511622594
Hapmap48641-BTA-119400	Discovery	rs41617704	ss61522219	T/C	A/G	12	10996119	UMD3.1	Hapmap48641-BTA-119400-0_T_R_1511577776
ARS-BFGL-NGS-103346	Discovery	rs110365259	ss86334026	A/G	A/G	14	68578968	UMD3.1	ARS-BFGL-NGS-103346-0_B_R_1511670578
ARS-BFGL-NGS-12610	Discovery	rs108991969	ss86325725	T/C	A/G	15	27822630	UMD3.1	ARS-BFGL-NGS-12610-0_B_F_1544345676
BTB-01912619	Discovery	rs43020250	ss64929001	A/G	A/G	15	20712027	UMD3.1	BTB-01912619-0_B_R_1511552693
Hapmap32097-BTA-150519	Discovery	rs109737932	ss117971819	A/G	A/G	15	56302387	UMD3.1	Hapmap32097-BTA-150519-0_B_R_1509306355
ARS-USMARC-Parent-DQ846695-no-rs	Discovery	rs41825023	ss117972104	T/C	A/G	16	80747557	UMD3.1	ARS-USMARC-Parent-DQ846695-no-rs-0_B_F_1544362788
BTB-00689316	Discovery	rs41853796	ss62371709	T/C	A/G	17	71925055	UMD3.1	BTB-00689316-0_B_F_1544349116
BTB-01715543	Discovery	rs42825187	ss64733230	A/G	A/G	17	45185286	UMD3.1	BTB-01715543-0_T_F_1511528916
ARS-BFGL-NGS-37708	Discovery	rs41885368	ss86298769	A/G	A/G	18	49928003	UMD3.1	ARS-BFGL-NGS-37708-0_T_F_1511681943
Hapmap47949-BTA-43407	Discovery	rs41581677	ss61482794	A/G	A/G	18	44524702	UMD3.1	Hapmap47949-BTA-43407-1_T_F_2022483083
ARS-USMARC-Parent-DQ990835-rs29012811	Discovery	rs29012811	ss38323909	G/C	C/G	20	36570529	UMD3.1	ARS-USMARC-Parent-DQ990835-rs29012811-0_B_F_1511686376
BTB-00041743	Discovery	rs43252624	ss65165964	A/G	A/G	20	46735404	UMD3.1	BTB-00041743-0_T_F_1511575806
BTB-01565998	Discovery	rs42680109	ss64530672	A/G	A/G	20	37915840	UMD3.1	BTB-01565998-0_T_F_1511532864

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
Hapmap32669-BTA-50759	Discovery	rs41606327	ss61502418	A/G	A/G	20	50999239	UMD3.1	Hapmap32669-BTA-50759-0_T_F_1544361425
Hapmap40826-BTA-87264	Discovery	rs41594336	ss61494128	A/G	A/G	20	496304	UMD3.1	Hapmap40826-BTA-87264-v2-1_B_R_1924255188
ARS-BFGL-NGS-119059	Discovery	rs110019581	ss86338680	A/G	A/G	22	58748602	UMD3.1	ARS-BFGL-NGS-119059-0_B_R_1511662796
ARS-BFGL-NGS-31568	Discovery	rs109579577	ss86316172	A/G	A/G	23	51795496	UMD3.1	ARS-BFGL-NGS-31568-0_T_F_1511665627
Hapmap23842-BTA-56935	Discovery	rs41600226	ss61502810	T/G	A/C	23	47219946	UMD3.1	Hapmap23842-BTA-56935-0_B_F_1511565757
ARS-BFGL-NGS-2592	Discovery	rs109874767	ss86335484	T/C	A/G	24	12775555	UMD3.1	ARS-BFGL-NGS-2592-0_B_F_1511660374
ARS-BFGL-NGS-85334	Discovery	rs109014300	ss86315535	A/G	A/G	24	54964769	UMD3.1	ARS-BFGL-NGS-85334-0_T_F_1511692375
ARS-BFGL-NGS-16739	Discovery	rs109106222	ss86304574	T/C	A/G	25	20723432	UMD3.1	ARS-BFGL-NGS-16739-0_T_R_1511640115
ARS-USMARC-Parent-AY942198-rs29003010	Discovery	rs29003010	ss38340199	T/C	A/G	25	40851475	UMD3.1	ARS-USMARC-Parent-AY942198-rs29003010-0_B_F_1511686256
ARS-BFGL-NGS-35579	Discovery	rs110035524	ss86320766	T/G	A/C	26	26058953	UMD3.1	ARS-BFGL-NGS-35579-F2BT-1_T_R_1923527441
ARS-BFGL-NGS-43058	Discovery	rs110952163	ss86300608	T/C	A/G	26	37466186	UMD3.1	ARS-BFGL-NGS-43058-0_T_R_1511687873
Hapmap42117-BTA-15977	Discovery	rs41624790	ss61524962	A/G	A/G	27	44629833	UMD3.1	Hapmap42117-BTA-15977-0_T_F_1509307662
Hapmap43150-BTA-110538	Discovery	rs41614882	ss61517404	A/G	A/G	28	6732947	UMD3.1	Hapmap43150-BTA-110538-0_B_R_1509293063
ARS-BFGL-NGS-56314	Discovery	rs109781094	ss86287263	T/C	A/G	29	4944723	UMD3.1	ARS-BFGL-NGS-56314-0_B_F_1511646008
ARS-BFGL-NGS-90760	Discovery	rs110854486	ss86321148	T/C	A/G	29	40153672	UMD3.1	ARS-BFGL-NGS-90760-0_T_R_1511690469
ARS-BFGL-NGS-104897	Discovery	rs43257282	ss86335115	A/C	A/C	1	112863292	UMD3.1	ARS-BFGL-NGS-104897-0_T_F_1544344725
ARS-BFGL-NGS-113570	Discovery	rs109360740	ss86340246	A/G	A/G	1	9601018	UMD3.1	ARS-BFGL-NGS-113570-v2-1_T_F_1924245876

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
ARS-BFGL-NGS-117553	Discovery	rs41994531	ss86341561	A/G	A/G	1	131326810	UMD3.1	ARS-BFGL-NGS-117553-0_T_F_1511655583
ARS-BFGL-NGS-118073	Discovery	rs43266192	ss86341223	T/C	A/G	1	128471733	UMD3.1	ARS-BFGL-NGS-118073-0_B_F_1511652684
ARS-BFGL-NGS-118398	Discovery	rs41584442	ss86341785	T/C	A/G	1	9019409	UMD3.1	ARS-BFGL-NGS-118398-0_T_R_1511653453
ARS-BFGL-NGS-119431	Discovery	rs110348226	ss86338192	T/C	A/G	1	78986953	UMD3.1	ARS-BFGL-NGS-119431-v2-1_B_F_1924246723
ARS-BFGL-NGS-19741	Discovery	rs109629400	ss86316456	A/G	A/G	1	80548510	UMD3.1	ARS-BFGL-NGS-19741-v2-1_B_R_1924247358
ARS-BFGL-NGS-32083	Discovery	rs42356323	ss86307480	T/C	A/G	1	109099488	UMD3.1	ARS-BFGL-NGS-32083-0_T_R_1511666321
ARS-BFGL-NGS-40229	Discovery	rs109327270	ss86288046	A/G	A/G	1	62184184	UMD3.1	ARS-BFGL-NGS-40229-0_T_F_1511685113
ARS-BFGL-NGS-4047	Discovery	rs110710269	ss86289851	T/C	A/G	1	84614199	UMD3.1	ARS-BFGL-NGS-4047-0_B_F_1511689272
ARS-BFGL-NGS-67754	Discovery	rs41583110	ss86297683	T/C	A/G	1	148816004	UMD3.1	ARS-BFGL-NGS-67754-0_B_F_1511656742
ARS-BFGL-NGS-76111	Discovery	rs110775913	ss86306448	A/G	A/G	1	103219606	UMD3.1	ARS-BFGL-NGS-76111-0_T_F_1511672473
BTA-122684-NO-RS	Discovery	rs41619822	ss61524374	A/G	A/G	1	139231307	UMD3.1	BTA-122684-no-rs-0_T_F_1511617076
BTA-23353-NO-RS	Discovery	rs41628641	ss61528709	A/C	A/C	1	60787763	UMD3.1	BTA-23353-no-rs-0_B_R_1511616787
BTA-35637-NO-RS	Discovery	rs41580510	ss61480774	T/C	A/G	1	5610335	UMD3.1	BTA-35637-no-rs-0_T_R_1511540926
BTA-46150-NO-RS	Discovery	rs41639071	ss61540930	T/C	A/G	1	102792723	UMD3.1	BTA-46150-no-rs-0_B_F_1511533155
BTA-49375-NO-RS	Discovery	rs41578204	ss61484351	T/C	A/G	1	121363361	UMD3.1	BTA-49375-no-rs-0_B_F_1511540531
BTB-00012128	Discovery	rs43223035	ss65136409	A/C	A/C	1	28599381	UMD3.1	BTB-00012128-0_T_F_1544347969
BTB-00052125	Discovery	rs43259942	ss65176334	T/C	A/G	1	120479376	UMD3.1	BTB-00052125-0_T_R_1544348037

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BTB-00061242	Discovery	rs43268844	ss65185443	A/G	A/G	1	133323967	UMD3.1	BTB-00061242-0_T_F_1544348093
BTB-00076466	Discovery	rs43282562	ss65200647	A/G	A/G	1	158161585	UMD3.1	BTB-00076466-0_T_F_1511575332
BTB-00468476	Discovery	rs43670957	ss65591615	A/C	A/C	1	46675519	UMD3.1	BTB-00468476-0_B_R_1511574513
BTB-01077379	Discovery	rs42234990	ss63448381	T/C	A/G	1	49279500	UMD3.1	BTB-01077379-0_T_R_1511598230
BTB-01086841	Discovery	rs42243124	ss63476669	T/C	A/G	1	94882093	UMD3.1	BTB-01086841-0_T_R_1511598280
BTB-01146838	Discovery	rs42303280	ss63656334	T/C	A/G	1	48802718	UMD3.1	BTB-01146838-0_B_F_1511598619
BTB-01287574	Discovery	rs42409034	ss63973210	T/C	A/G	1	133671941	UMD3.1	BTB-01287574-0_T_R_1544355675
BTB-01728863	Discovery	rs42845302	ss64746472	T/C	A/G	1	5179453	UMD3.1	BTB-01728863-0_T_R_1544352987
BTB-02006134	Discovery	rs43113585	ss65021416	A/G	A/G	1	61357379	UMD3.1	BTB-02006134-0_B_R_1511552111
HAPMAP38147-BTA-25404	Discovery	rs41574703	ss61478189	A/C	A/C	1	57660748	UMD3.1	Hapmap38147-BTA-25404-0_T_F_1511628450
HAPMAP39375-BTA-112108	Discovery	rs41612214	ss61518249	A/C	A/C	1	78449548	UMD3.1	Hapmap39375-BTA-112108-0_B_R_1509317979
HAPMAP39712-BTA-109811	Discovery	rs110858680	ss61517016	T/G	A/C	1	101583260	UMD3.1	Hapmap39712-BTA-109811-0_B_F_1511627845
HAPMAP43297-BTA-57357	Discovery	rs41583126	ss117966440	T/C	A/G	1	152189521	UMD3.1	Hapmap43297-BTA-57357-0_T_R_1509273582
HAPMAP44395-BTA-64864	Discovery	rs41648924	ss61551244	A/G	A/G	1	153919758	UMD3.1	Hapmap44395-BTA-64864-0_B_R_1509275729
HAPMAP48717-BTA-31633	Discovery	rs41630790	ss61533227	A/G	A/G	1	59971879	UMD3.1	Hapmap48717-BTA-31633-0_T_F_1511577672
HAPMAP49061-BTA-122268	Discovery	rs41624979	ss61524032	A/G	A/G	1	63742577	UMD3.1	Hapmap49061-BTA-122268-0_B_R_1511601511
HAPMAP50048-BTA-59263	Discovery	rs41586446	ss61486868	A/G	A/G	1	27465349	UMD3.1	Hapmap50048-BTA-59263-0_T_F_1509284828

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
HAPMAP52559-RS29015773	Discovery	rs29015773	ss38332264	T/G	A/C	1	8998063	UMD3.1	Hapmap52559-rs29015773-0_T_R_1511617980
HAPMAP57299-SS46527085	Discovery	rs41255628	ss46527085	T/C	A/G	1	145059132	UMD3.1	Hapmap57299-ss46527085-0_B_F_1511542773
ARS-BFGL-BAC-29664	Discovery	rs110341860	ss105257401	T/C	A/G	2	30635269	UMD3.1	ARS-BFGL-BAC-29664-0_B_F_1544343794
ARS-BFGL-BAC-30348	Discovery	rs110419748	ss105258160	A/G	A/G	2	22151093	UMD3.1	ARS-BFGL-BAC-30348-0_T_F_1511663383
ARS-BFGL-BAC-32404	Discovery	rs109320395	ss105260440	T/C	A/G	2	13343685	UMD3.1	ARS-BFGL-BAC-32404-0_B_F_1511663544
ARS-BFGL-NGS-116761	Discovery	rs110011842	ss86339699	T/C	A/G	2	136483623	UMD3.1	ARS-BFGL-NGS-116761-0_T_R_1511655013
ARS-BFGL-NGS-118138	Discovery	rs42457132	ss86336697	A/G	A/G	2	67292723	UMD3.1	ARS-BFGL-NGS-118138-0_T_F_1511653365
ARS-BFGL-NGS-118876	Discovery	rs109264826	ss86339741	T/C	A/G	2	66585600	UMD3.1	ARS-BFGL-NGS-118876-0_T_R_1511655277
ARS-BFGL-NGS-15250	Discovery	rs109386162	ss86326904	A/G	A/G	2	89845085	UMD3.1	ARS-BFGL-NGS-15250-0_B_R_1511641324
ARS-BFGL-NGS-15508	Discovery	rs110868968	ss86328344	A/G	A/G	2	119595498	UMD3.1	ARS-BFGL-NGS-15508-0_B_R_1511639918
ARS-BFGL-NGS-33709	Discovery	rs109419732	ss86315136	A/G	A/G	2	130187033	UMD3.1	ARS-BFGL-NGS-33709-0_B_R_1511674856
ARS-BFGL-NGS-35963	Discovery	rs110551793	ss86303585	A/C	A/C	2	105193025	UMD3.1	ARS-BFGL-NGS-35963-0_T_F_1511681193
ARS-BFGL-NGS-40189	Discovery	rs109189655	ss86321720	A/G	A/G	2	89008935	UMD3.1	ARS-BFGL-NGS-40189-0_T_F_1511689293
ARS-BFGL-NGS-57870	Discovery	rs110568121	ss86288122	A/G	A/G	2	37813654	UMD3.1	ARS-BFGL-NGS-57870-0_T_F_1544350841
ARS-BFGL-NGS-60640	Discovery	rs109370370	ss86291691	T/C	A/G	2	3242217	UMD3.1	ARS-BFGL-NGS-60640-0_T_R_1511650779
ARS-BFGL-NGS-67260	Discovery	rs109453608	ss86297852	A/G	A/G	2	135190642	UMD3.1	ARS-BFGL-NGS-67260-1_T_F_2128295783
ARS-BFGL-NGS-72192	Discovery	rs109205936	ss86301441	T/C	A/G	2	65044427	UMD3.1	ARS-BFGL-NGS-72192-0_T_R_1511672013

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
ARS-BFGL-NGS-89098	Discovery	rs109154008	ss86318772	T/G	A/C	2	13901492	UMD3.1	ARS-BFGL-NGS-89098-0_B_F_1511689922
BTA-114831-NO-RS	Discovery	rs41574370	ss61473860	T/C	A/G	2	39709004	UMD3.1	BTA-114831-no-rs-0_T_R_1544353375
BTA-19852-NO-RS	Discovery	rs41628437	ss61526969	A/G	A/G	2	42986890	UMD3.1	BTA-19852-no-rs-0_B_R_1511616743
BTB-00079213	Discovery	rs43288464	ss65203384	A/G	A/G	2	8476975	UMD3.1	BTB-00079213-0_T_F_1511575540
BTB-00082871	Discovery	rs43293394	ss65207039	T/G	A/C	2	20699862	UMD3.1	BTB-00082871-0_B_F_1544353914
BTB-00089384	Discovery	rs43300334	ss65213533	T/C	A/G	2	35264900	UMD3.1	BTB-00089384-0_T_R_1511575544
BTB-00098773	Discovery	rs43304762	ss65222905	A/G	A/G	2	52497009	UMD3.1	BTB-00098773-0_T_F_1544354015
BTB-01753605	Discovery	rs42862169	ss64771163	T/C	A/G	2	55729126	UMD3.1	BTB-01753605-0_T_R_1511529124
HAPMAP33049-BTA-153946	Discovery	rs109475468	ss117966789	A/G	A/G	2	79320427	UMD3.1	Hapmap33049-BTA-153946-0_B_R_1544355884
HAPMAP35220-BES9_CONTIG365_495	Discovery	rs43710074	ss66538228	T/C	A/G	2	70895063	UMD3.1	Hapmap35220-BES9_Contig365_495-0_B_F_1509283901
HAPMAP35744-SCAFFOLD60587_8279	Discovery	rs29018369	ss117966872	A/C	A/C	2	111361143	UMD3.1	Hapmap35744-SCAFFOLD60587_8279-0_T_F_1509222362
HAPMAP42104-BTA-121232	Discovery	rs41619967	ss61523297	T/C	A/G	2	81159639	UMD3.1	Hapmap42104-BTA-121232-0_T_R_1509308138
HAPMAP43869-BTA-49512	Discovery	rs41636478	ss61542755	T/C	A/G	2	120301651	UMD3.1	Hapmap43869-BTA-49512-0_B_F_1511566101
HAPMAP44545-BTA-47658	Discovery	rs41637159	ss61541725	T/C	A/G	2	52339443	UMD3.1	Hapmap44545-BTA-47658-0_B_F_1509288953
HAPMAP49925-BTA-24427	Discovery	rs41633771	ss61529263	A/G	A/G	2	86704498	UMD3.1	Hapmap49925-BTA-24427-0_T_F_1511602514
HAPMAP51412-BTA-16926	Discovery	rs41621063	ss61525448	A/G	A/G	2	59690093	UMD3.1	Hapmap51412-BTA-16926-0_T_F_1511602922
HAPMAP51598-BTA-47943	Discovery	rs41638281	ss61541849	T/C	A/G	2	65700940	UMD3.1	Hapmap51598-BTA-47943-0_B_F_1509318833

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
HAPMAP52627-RS29014567	Discovery	rs29014567	ss38326256	T/G	A/C	2	100273809	UMD3.1	Hapmap52627-rs29014567-0_T_R_1511601434
HAPMAP54320-RS29012920	Discovery	rs29012920	ss38324019	T/C	A/G	2	5037866	UMD3.1	Hapmap54320-rs29012920-0_T_R_1509313654
HAPMAP54766-RS29012658	Discovery	rs29012658	ss38323754	T/C	A/G	2	14451633	UMD3.1	Hapmap54766-rs29012658-0_B_F_1509320651
HAPMAP58509-RS29024139	Discovery	rs29024139	ss38334232	T/C	A/G	2	37635484	UMD3.1	Hapmap58509-rs29024139-0_B_F_1509331449
UA-IFASA-4619	Discovery	rs29014393	ss117963586	T/C	A/G	2	76309053	UMD3.1	UA-IFASA-4619-0_T_R_1511687463
UA-IFASA-8833	Discovery	rs41643750	ss117963637	T/C	A/G	2	116087072	UMD3.1	UA-IFASA-8833-0_T_R_1511694635
ARS-BFGL-NGS-103524	Discovery	rs110713161	ss86332467	T/G	A/C	3	85253155	UMD3.1	ARS-BFGL-NGS-103524-0_B_F_1511673760
ARS-BFGL-NGS-105811	Discovery	rs110161964	ss86306287	A/G	A/G	3	22706379	UMD3.1	ARS-BFGL-NGS-105811-0_B_R_1511679734
ARS-BFGL-NGS-111118	Discovery	rs108937915	ss86338009	A/G	A/G	3	32077291	UMD3.1	ARS-BFGL-NGS-111118-0_T_F_1511637569
ARS-BFGL-NGS-113910	Discovery	rs110690853	ss86338078	T/G	A/C	3	43939238	UMD3.1	ARS-BFGL-NGS-113910-0_B_F_1511647530
ARS-BFGL-NGS-114028	Discovery	rs43365742	ss86339556	A/G	A/G	3	105173273	UMD3.1	ARS-BFGL-NGS-114028-0_T_F_1511648511
ARS-BFGL-NGS-117241	Discovery	rs109896720	ss86338373	T/C	A/G	3	28144691	UMD3.1	ARS-BFGL-NGS-117241-0_T_R_1511653091
ARS-BFGL-NGS-117870	Discovery	rs109182422	ss86339080	T/C	A/G	3	33332678	UMD3.1	ARS-BFGL-NGS-117870-0_T_R_1511654221
ARS-BFGL-NGS-118597	Discovery	rs43355872	ss86336478	T/C	A/G	3	103268281	UMD3.1	ARS-BFGL-NGS-118597-0_T_R_1511654417
ARS-BFGL-NGS-17527	Discovery	rs41621390	ss86286004	A/G	A/G	3	4279731	UMD3.1	ARS-BFGL-NGS-17527-0_T_F_1511644643
ARS-BFGL-NGS-20403	Discovery	rs43371159	ss86295607	T/G	A/C	3	119000177	UMD3.1	ARS-BFGL-NGS-20403-0_T_R_1511649091
ARS-BFGL-NGS-2215	Discovery	rs43355620	ss86306392	A/G	A/G	3	84693517	UMD3.1	ARS-BFGL-NGS-2215-0_T_F_1511650245

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
ARS-BFGL-NGS-27948	Discovery	rs109754043	ss86304157	A/G	A/G	3	10000411	UMD3.1	ARS-BFGL-NGS-27948-0_T_F_1544346623
ARS-BFGL-NGS-34169	Discovery	rs109033268	ss86285964	A/G	A/G	3	19309220	UMD3.1	ARS-BFGL-NGS-34169-0_B_R_1511675022
ARS-BFGL-NGS-34393	Discovery	rs109268555	ss86274328	A/G	A/G	3	50673505	UMD3.1	ARS-BFGL-NGS-34393-0_B_R_1511675570
ARS-BFGL-NGS-45686	Discovery	rs109578131	ss86302394	A/G	A/G	3	26031815	UMD3.1	ARS-BFGL-NGS-45686-0_T_F_1511687489
ARS-BFGL-NGS-57417	Discovery	rs108998940	ss86288485	T/C	A/G	3	43975868	UMD3.1	ARS-BFGL-NGS-57417-0_T_R_1511647237
ARS-BFGL-NGS-58066	Discovery	rs111019940	ss86287927	T/C	A/G	3	92986164	UMD3.1	ARS-BFGL-NGS-58066-0_T_R_1511646213
BTA-100337-NO-RS	Discovery	rs109133797	ss61512219	T/C	A/G	3	41371572	UMD3.1	BTA-100337-no-rs-0_T_R_1511596400
BTA-68995-NO-RS	Discovery	rs43712181	ss61553433	A/T	A/T	3	97793166	UMD3.1	BTA-68995-no-rs-0_B_R_1511533257
BTB-01097609	Discovery	rs42253045	ss63508922	A/G	A/G	3	68271435	UMD3.1	BTB-01097609-0_T_F_1511607354
BTB-01626709	Discovery	rs42737927	ss64644746	T/C	A/G	3	113907407	UMD3.1	BTB-01626709-0_T_R_1511532710
HAPMAP32799-BTA-132450	Discovery	rs41882343	ss117967002	T/C	A/G	3	73549770	UMD3.1	Hapmap32799-BTA-132450-0_B_F_1511597817
HAPMAP40508-BTA-21513	Discovery	rs41575437	ss61477190	T/C	A/G	3	73035441	UMD3.1	Hapmap40508-BTA-21513-0_T_R_1511628626
HAPMAP43906-BTA-66658	Discovery	rs41587368	ss61488827	A/G	A/G	3	14273135	UMD3.1	Hapmap43906-BTA-66658-0_B_R_1511566459
HAPMAP43908-BTA-67758	Discovery	rs41590454	ss61489117	T/C	A/G	3	44959256	UMD3.1	Hapmap43908-BTA-67758-0_T_R_1509279944
HAPMAP46717-BTA-69803	Discovery	rs41586388	ss61489670	A/G	A/G	3	118167062	UMD3.1	Hapmap46717-BTA-69803-0_B_R_1511576995
INRA-638	Discovery	rs110438768	ss117962838	A/G	A/G	3	62004226	UMD3.1	INRA-638-0_B_R_1511657600
ARS-BFGL-NGS-103280	Discovery	rs109268659	ss86332959	T/C	A/G	5	84523411	UMD3.1	ARS-BFGL-NGS-103280-0_T_R_1511673681

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
ARS-BFGL-NGS-107085	Discovery	rs109223185	ss86289994	T/C	A/G	5	28660813	UMD3.1	ARS-BFGL-NGS-107085-0_B_F_1511677970
ARS-BFGL-NGS-14632	Discovery	rs110117542	ss86329869	A/G	A/G	5	118501191	UMD3.1	ARS-BFGL-NGS-14632-0_T_F_1511640527
ARS-BFGL-NGS-21717	Discovery	rs109513912	ss86313314	T/C	A/G	5	117102295	UMD3.1	ARS-BFGL-NGS-21717-0_T_R_1511649969
ARS-BFGL-NGS-23432	Discovery	rs109724164	ss86277105	G/C	C/G	5	40112322	UMD3.1	ARS-BFGL-NGS-23432-0_T_R_1511658967
ARS-BFGL-NGS-23961	Discovery	rs110038808	ss86311819	A/G	A/G	5	25995476	UMD3.1	ARS-BFGL-NGS-23961-v2-1_B_R_1924247630
ARS-BFGL-NGS-25107	Discovery	rs109607671	ss86319576	A/G	A/G	5	119408760	UMD3.1	ARS-BFGL-NGS-25107-0_B_R_1544346228
ARS-BFGL-NGS-30677	Discovery	rs110873570	ss86294546	A/G	A/G	5	43565856	UMD3.1	ARS-BFGL-NGS-30677-0_T_F_1511666719
ARS-BFGL-NGS-33745	Discovery	rs110258843	ss86297916	A/G	A/G	5	51064864	UMD3.1	ARS-BFGL-NGS-33745-0_T_F_1511675641
ARS-BFGL-NGS-39913	Discovery	rs109168591	ss86320410	A/C	A/C	5	85535871	UMD3.1	ARS-BFGL-NGS-39913-0_B_R_1511685024
ARS-BFGL-NGS-44153	Discovery	rs109783698	ss86307990	T/C	A/G	5	97430973	UMD3.1	ARS-BFGL-NGS-44153-0_T_R_1511688905
ARS-BFGL-NGS-45453	Discovery	rs109934583	ss86276041	C/G	C/G	5	112521878	UMD3.1	ARS-BFGL-NGS-45453-0_T_F_1511683719
ARS-BFGL-NGS-53461	Discovery	rs110059642	ss86283356	A/G	A/G	5	30659497	UMD3.1	ARS-BFGL-NGS-53461-0_B_R_1511641618
ARS-BFGL-NGS-72413	Discovery	rs109023960	ss86303481	T/G	A/C	5	82466920	UMD3.1	ARS-BFGL-NGS-72413-0_B_F_1511661802
ARS-BFGL-NGS-7433	Discovery	rs109090162	ss86274207	T/G	A/C	5	44885503	UMD3.1	ARS-BFGL-NGS-7433-0_T_R_1511671751
ARS-BFGL-NGS-81155	Discovery	rs109443432	ss86311662	T/G	A/C	5	13271489	UMD3.1	ARS-BFGL-NGS-81155-0_T_R_1544361695
BTA-37834-NO-RS	Discovery	rs109957658	ss61481328	T/G	A/C	5	93187014	UMD3.1	BTA-37834-no-rs-0_B_F_1511540521
BTA-73797-NO-RS	Discovery	rs41590761	ss61490756	T/C	A/G	5	64190317	UMD3.1	BTA-73797-no-rs-0_B_F_1544347852

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BTA-85566-NO-RS	Discovery	rs43743037	ss61562356	A/G	A/G	5	66040455	UMD3.1	BTA-85566-no-rs-0_T_F_1511550972
BTA-89424-NO-RS	Discovery	rs109089295	ss61564393	T/C	A/G	5	16666769	UMD3.1	BTA-89424-no-rs-0_T_R_1511558042
BTB-01495784	Discovery	rs42616286	ss64388054	T/C	A/G	5	34101843	UMD3.1	BTB-01495784-0_B_F_1544360158
HAPMAP33479-BTA-137049	Discovery	rs109840696	ss117967832	A/G	A/G	5	15224660	UMD3.1	Hapmap33479-BTA-137049-0_B_R_1544361458
HAPMAP39103-BTA-111886	Discovery	rs41611298	ss61518129	A/C	A/C	5	91346899	UMD3.1	Hapmap39103-BTA-111886-0_T_F_1511627344
HAPMAP40581-BTA-73771	Discovery	rs109701457	ss61555894	A/G	A/G	5	67153683	UMD3.1	Hapmap40581-BTA-73771-0_T_F_1511629002
HAPMAP44400-BTA-72792	Discovery	rs41587982	ss61490476	A/G	A/G	5	15696963	UMD3.1	Hapmap44400-BTA-72792-0_T_F_1509273674
HAPMAP47185-BTA-114173	Discovery	rs41573130	ss61473714	T/C	A/G	5	99044605	UMD3.1	Hapmap47185-BTA-114173-0_B_F_1511577057
HAPMAP50837-BTA-98392	Discovery	rs41593990	ss61497060	T/C	A/G	5	46995137	UMD3.1	Hapmap50837-BTA-98392-0_B_F_1509318315
HAPMAP51304-BTA-74559	Discovery	rs41591921	ss61490918	A/G	A/G	5	93718582	UMD3.1	Hapmap51304-BTA-74559-0_T_F_1511602314
HAPMAP59828-RS29027014	Discovery	rs29027014	ss38329400	T/C	A/G	5	66830677	UMD3.1	Hapmap59828-rs29027014-0_T_R_1509289834
HAPMAP60420-RS29010136	Discovery	rs29010136	ss38324636	A/C	A/C	5	112045991	UMD3.1	Hapmap60420-rs29010136-0_B_R_1511547925
ARS-BFGL-NGS-102603	Discovery	rs110351681	ss86331087	T/G	A/C	7	67495781	UMD3.1	ARS-BFGL-NGS-102603-0_B_F_1544343612
ARS-BFGL-NGS-109750	Discovery	rs110303958	ss86336681	A/G	A/G	7	45412030	UMD3.1	ARS-BFGL-NGS-109750-0_B_R_1511644208
ARS-BFGL-NGS-110438	Discovery	rs109370616	ss86335506	T/C	A/G	7	27258897	UMD3.1	ARS-BFGL-NGS-110438-0_B_F_1511653326
ARS-BFGL-NGS-117421	Discovery	rs43494965	ss86341439	A/G	A/G	7	4286714	UMD3.1	ARS-BFGL-NGS-117421-0_B_R_1511653258
ARS-BFGL-NGS-11889	Discovery	rs111029549	ss86320413	A/C	A/C	7	43292715	UMD3.1	ARS-BFGL-NGS-11889-0_T_F_1511678427

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
ARS-BFGL-NGS-75852	Discovery	rs109260182	ss86306495	T/C	A/G	7	71545383	UMD3.1	ARS-BFGL-NGS-75852-0_B_F_1544352212
BTA-104712-NO-RS	Discovery	rs41611784	ss61514411	T/G	A/C	7	57011212	UMD3.1	BTA-104712-no-rs-0_T_R_1511596874
BTA-113124-NO-RS	Discovery	rs43706044	ss61498638	T/C	A/G	7	73290787	UMD3.1	BTA-113124-no-rs-0_B_F_1511606763
BTA-20841-NO-RS	Discovery	rs41624194	ss61527534	A/G	A/G	7	92201609	UMD3.1	BTA-20841-no-rs-0_B_R_1511625217
BTB-00311926	Discovery	rs43517685	ss65435347	A/G	A/G	7	59651740	UMD3.1	BTB-00311926-0_T_F_1511573700
BTB-00312091	Discovery	rs43520350	ss65435512	A/C	A/C	7	63547825	UMD3.1	BTB-00312091-0_B_R_1511573713
BTB-00320041	Discovery	rs43526579	ss65443454	T/C	A/G	7	80573481	UMD3.1	BTB-00320041-0_T_R_1511582134
BTB-00327755	Discovery	rs43528937	ss65451163	T/C	A/G	7	76497957	UMD3.1	BTB-00327755-0_B_F_1511580653
BTB-00955215	Discovery	rs42118405	ss63104298	T/C	A/G	7	106043966	UMD3.1	BTB-00955215-0_B_F_1511588527
BTB-01130079	Discovery	rs42284419	ss63606117	A/C	A/C	7	58255324	UMD3.1	BTB-01130079-0_T_F_1544359883
BTB-01172317	Discovery	rs42326854	ss63732749	A/G	A/G	7	36127497	UMD3.1	BTB-01172317-0_T_F_1511598710
BTB-01453354	Discovery	rs42579108	ss64303872	A/G	A/G	7	77038018	UMD3.1	BTB-01453354-0_T_F_1511623182
BTB-01920914	Discovery	rs43026255	ss64937240	A/G	A/G	7	86936090	UMD3.1	BTB-01920914-0_B_R_1544360918
HAPMAP30362-BTA-79378	Discovery	rs41605127	ss61504352	A/G	A/G	7	59353807	UMD3.1	Hapmap30362-BTA-79378-0_B_R_1544359594
HAPMAP33032-BTA-148803	Discovery	rs42277425	ss117969067	A/G	A/G	7	68830299	UMD3.1	Hapmap33032-BTA-148803-0_T_F_1511592802
HAPMAP50109-BTA-79983	Discovery	rs41656547	ss61559313	T/C	A/G	7	81964652	UMD3.1	Hapmap50109-BTA-79983-0_T_R_1511601812
HAPMAP50113-BTA-80661	Discovery	rs41597420	ss61492473	A/G	A/G	7	8860921	UMD3.1	Hapmap50113-BTA-80661-0_B_R_1509285709

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
UA-IFASA-4904	Discovery	rs29015019	ss117963926	T/C	A/G	7	35153271	UMD3.1	UA-IFASA-4904-0_T_R_1511687421
ARS-BFGL-NGS-106379	Discovery	rs42390350	ss86307964	T/C	A/G	8	113159018	UMD3.1	ARS-BFGL-NGS-106379-0_B_F_1511679852
ARS-BFGL-NGS-108099	Discovery	rs109279813	ss86317401	T/C	A/G	8	23116314	UMD3.1	ARS-BFGL-NGS-108099-0_T_R_1511672675
ARS-BFGL-NGS-108549	Discovery	rs110503484	ss86306174	T/C	A/G	8	82311830	UMD3.1	ARS-BFGL-NGS-108549-0_T_R_1544343919
ARS-BFGL-NGS-110811	Discovery	rs110481266	ss86339546	T/C	A/G	8	69343704	UMD3.1	ARS-BFGL-NGS-110811-0_T_R_1511637675
ARS-BFGL-NGS-111788	Discovery	rs43578821	ss86340085	G/C	C/G	8	101231366	UMD3.1	ARS-BFGL-NGS-111788-0_B_F_1511638894
ARS-BFGL-NGS-117122	Discovery	rs109443931	ss86340374	A/G	A/G	8	20608192	UMD3.1	ARS-BFGL-NGS-117122-0_T_F_1511654401
ARS-BFGL-NGS-16925	Discovery	rs110070404	ss86323536	T/C	A/G	8	64476783	UMD3.1	ARS-BFGL-NGS-16925-0_T_R_1544345763
ARS-BFGL-NGS-30559	Discovery	rs110282071	ss86312018	A/G	A/G	8	51719716	UMD3.1	ARS-BFGL-NGS-30559-0_T_F_1544347535
ARS-BFGL-NGS-37680	Discovery	rs43773249	ss86315576	A/C	A/C	8	55778679	UMD3.1	ARS-BFGL-NGS-37680-0_B_R_1511681890
ARS-BFGL-NGS-44611	Discovery	rs110839325	ss86294603	A/G	A/G	8	60225941	UMD3.1	ARS-BFGL-NGS-44611-1_B_R_2128295788
ARS-BFGL-NGS-71395	Discovery	rs42216771	ss86301528	A/G	A/G	8	24707157	UMD3.1	ARS-BFGL-NGS-71395-0_B_R_1511672420
ARS-BFGL-NGS-92824	Discovery	rs111025793	ss86323461	A/G	A/G	8	111713971	UMD3.1	ARS-BFGL-NGS-92824-0_B_R_1511689454
BTA-101724-NO-RS	Discovery	rs41616289	ss61512891	T/C	A/G	8	93896073	UMD3.1	BTA-101724-no-rs-0_B_F_1511597053
BTA-80863-NO-RS	Discovery	rs41658821	ss61559804	G/C	C/G	8	22130988	UMD3.1	BTA-80863-no-rs-0_B_F_1511551119
BTB-00095699	Discovery	rs43303344	ss65219838	T/C	A/G	8	15534805	UMD3.1	BTB-00095699-0_T_R_1544353945
BTB-00285653	Discovery	rs43499009	ss65409130	T/C	A/G	8	30036807	UMD3.1	BTB-00285653-0_T_R_1511581890

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BTB-00431734	Discovery	rs43640778	ss65554940	A/G	A/G	8	110042671	UMD3.1	BTB-00431734-0_B_R_1511580629
BTB-01109703	Discovery	rs42264490	ss63545166	A/G	A/G	8	26899147	UMD3.1	BTB-01109703-0_T_F_1544357833
BTB-01276763	Discovery	rs42400277	ss63951620	A/C	A/C	8	3798414	UMD3.1	BTB-01276763-0_T_F_1511617542
BTB-01944037	Discovery	rs43053569	ss64960232	A/G	A/G	8	108772548	UMD3.1	BTB-01944037-0_B_R_1511543993
HAPMAP24224-BTA-93350	Discovery	rs41606159	ss61505413	A/C	A/C	8	65960156	UMD3.1	Hapmap24224-BTA-93350-0_T_F_1510717348
HAPMAP39690-BTA-82650	Discovery	rs41590921	ss61492973	A/C	A/C	8	104829510	UMD3.1	Hapmap39690-BTA-82650-0_B_R_1511627385
HAPMAP45337-BTA-109277	Discovery	rs41618019	ss61516718	G/C	C/G	8	4955143	UMD3.1	Hapmap45337-BTA-109277-0_B_F_1509286771
HAPMAP49049-BTA-119736	Discovery	rs41571461	ss61475068	T/C	A/G	8	55892688	UMD3.1	Hapmap49049-BTA-119736-0_T_R_1511602078
HAPMAP49333-BTA-82773	Discovery	rs41609510	ss61510981	A/G	A/G	8	109321402	UMD3.1	Hapmap49333-BTA-82773-0_T_F_1509295000
HAPMAP57430-RS29016504	Discovery	rs29016504	ss38333008	A/G	A/G	8	1154683	UMD3.1	Hapmap57430-rs29016504-0_B_R_1509324941
HAPMAP58894-RS29013940	Discovery	rs29013940	ss38322841	T/C	A/G	8	99957737	UMD3.1	Hapmap58894-rs29013940-0_B_F_1509290019
HAPMAP58990-RS29020862	Discovery	rs29020862	ss38328553	T/C	A/G	8	9962339	UMD3.1	Hapmap58990-rs29020862-0_B_F_1509309093
UA-IFASA-6154	Discovery	rs41590851	ss117964020	T/C	A/G	8	104158107	UMD3.1	UA-IFASA-6154-0_B_F_1511686662
ARS-BFGL-BAC-14220	Discovery	rs109677705	ss105240266	A/G	A/G	11	13914771	UMD3.1	ARS-BFGL-BAC-14220-0_B_R_1511664100
ARS-BFGL-NGS-10436	Discovery	rs109880920	ss86289220	T/C	A/G	11	26982927	UMD3.1	ARS-BFGL-NGS-10436-0_T_R_1511673221
ARS-BFGL-NGS-109752	Discovery	rs109391965	ss86335949	T/G	A/C	11	95322986	UMD3.1	ARS-BFGL-NGS-109752-0_T_R_1511652505
ARS-BFGL-NGS-111691	Discovery	rs41597473	ss86340494	T/G	A/C	11	44844492	UMD3.1	ARS-BFGL-NGS-111691-0_B_F_1511638000

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
ARS-BFGL-NGS-112130	Discovery	rs109194444	ss86335992	T/C	A/G	11	102548124	UMD3.1	ARS-BFGL-NGS-112130-0_T_R_1511638829
ARS-BFGL-NGS-114087	Discovery	rs110374329	ss86336971	A/G	A/G	11	64057850	UMD3.1	ARS-BFGL-NGS-114087-0_T_F_1511647909
ARS-BFGL-NGS-116589	Discovery	rs109391018	ss86341591	A/G	A/G	11	100901534	UMD3.1	ARS-BFGL-NGS-116589-0_T_F_1511654293
ARS-BFGL-NGS-117672	Discovery	rs109144352	ss86339235	T/C	A/G	11	31332721	UMD3.1	ARS-BFGL-NGS-117672-0_B_F_1511653664
ARS-BFGL-NGS-24591	Discovery	rs110734659	ss86314415	A/G	A/G	11	42330073	UMD3.1	ARS-BFGL-NGS-24591-0_B_R_1511656038
ARS-BFGL-NGS-28681	Discovery	rs109732456	ss86289852	T/C	A/G	11	101522062	UMD3.1	ARS-BFGL-NGS-28681-0_T_R_1511665277
ARS-BFGL-NGS-41117	Discovery	rs109850773	ss86321402	T/C	A/G	11	6724678	UMD3.1	ARS-BFGL-NGS-41117-v2-1_B_F_1924248854
ARS-BFGL-NGS-5662	Discovery	rs110152455	ss86292486	T/C	A/G	11	83028893	UMD3.1	ARS-BFGL-NGS-5662-0_T_R_1511646541
ARS-BFGL-NGS-66512	Discovery	rs110248771	ss86297019	A/G	A/G	11	36983331	UMD3.1	ARS-BFGL-NGS-66512-0_T_F_1511657289
ARS-BFGL-NGS-68030	Discovery	rs43659115	ss86298860	T/C	A/G	11	1901787	UMD3.1	ARS-BFGL-NGS-68030-0_T_R_1511657421
ARS-BFGL-NGS-68850	Discovery	rs42274427	ss86298915	T/C	A/G	11	5252617	UMD3.1	ARS-BFGL-NGS-68850-0_T_R_1511656561
BTA-99659-NO-RS	Discovery	rs41596833	ss61497406	T/C	A/G	11	30945111	UMD3.1	BTA-99659-no-rs-0_B_F_1511576291
BTB-00458773	Discovery	rs43663587	ss65581933	A/C	A/C	11	10753131	UMD3.1	BTB-00458773-0_B_R_1511574455
BTB-00474688	Discovery	rs43680229	ss65597810	T/C	A/G	11	50431031	UMD3.1	BTB-00474688-0_B_F_1511574523
BTB-01397485	Discovery	rs42520028	ss64192391	T/C	A/G	11	33236456	UMD3.1	BTB-01397485-0_T_R_1511613640
BTB-01426876	Discovery	rs42552262	ss64251080	T/C	A/G	11	34482175	UMD3.1	BTB-01426876-0_B_F_1544360628
HAPMAP22963-BTA-91941	Discovery	rs41604980	ss61505330	T/G	A/C	11	1806374	UMD3.1	Hapmap22963-BTA-91941-0_T_R_1544359493

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
HAPMAP33373-BTA-148341	Discovery	rs110590483	ss117970339	A/G	A/G	11	39437937	UMD3.1	Hapmap33373-BTA-148341-0_T_F_1544359173
HAPMAP43815-BTA-23051	Discovery	rs41626586	ss61528544	T/C	A/G	11	44583035	UMD3.1	Hapmap43815-BTA-23051-0_B_F_1511566041
HAPMAP48543-BTA-98093	Discovery	rs41668260	ss61568981	A/G	A/G	11	59319163	UMD3.1	Hapmap48543-BTA-98093-0_B_R_1511577685
ARS-BFGL-BAC-11276	Discovery	rs110053849	ss105237002	A/G	A/G	13	2153905	UMD3.1	ARS-BFGL-BAC-11276-0_B_R_1511657522
ARS-BFGL-NGS-103379	Discovery	rs42580320	ss86330316	T/C	A/G	13	3764223	UMD3.1	ARS-BFGL-NGS-103379-0_T_R_1511673423
ARS-BFGL-NGS-108308	Discovery	rs109618623	ss86289651	T/G	A/C	13	28999095	UMD3.1	ARS-BFGL-NGS-108308-0_T_R_1511677715
ARS-BFGL-NGS-111777	Discovery	rs109436345	ss86340999	T/C	A/G	13	35029615	UMD3.1	ARS-BFGL-NGS-111777-0_T_R_1511638753
ARS-BFGL-NGS-112625	Discovery	rs109238076	ss86337827	T/C	A/G	13	74579327	UMD3.1	ARS-BFGL-NGS-112625-0_B_F_1511648424
ARS-BFGL-NGS-11585	Discovery	rs109418164	ss86324125	A/C	A/C	13	17407043	UMD3.1	ARS-BFGL-NGS-11585-0_T_F_1511680535
ARS-BFGL-NGS-118453	Discovery	rs110768475	ss86339738	A/G	A/G	13	74179277	UMD3.1	ARS-BFGL-NGS-118453-0_B_R_1511653594
ARS-BFGL-NGS-22052	Discovery	rs43708211	ss86340346	T/C	A/G	13	61559991	UMD3.1	ARS-BFGL-NGS-22052-0_B_F_1511650196
ARS-BFGL-NGS-28202	Discovery	rs110452193	ss86314069	A/G	A/G	13	38359460	UMD3.1	ARS-BFGL-NGS-28202-0_T_F_1511656087
ARS-BFGL-NGS-29144	Discovery	rs41689621	ss86280267	C/G	C/G	13	40606621	UMD3.1	ARS-BFGL-NGS-29144-0_T_F_1511665803
ARS-BFGL-NGS-36793	Discovery	rs111027602	ss86273810	A/G	A/G	13	80239131	UMD3.1	ARS-BFGL-NGS-36793-0_T_F_1511674227
ARS-BFGL-NGS-36852	Discovery	rs110779743	ss86296804	A/G	A/G	13	37210394	UMD3.1	ARS-BFGL-NGS-36852-0_T_F_1511681003
ARS-BFGL-NGS-55042	Discovery	rs109631491	ss86285379	A/G	A/G	13	45510831	UMD3.1	ARS-BFGL-NGS-55042-0_B_R_1511642286
ARS-BFGL-NGS-81428	Discovery	rs110541329	ss86311680	A/G	A/G	13	20735468	UMD3.1	ARS-BFGL-NGS-81428-0_B_R_1511676410

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
ARS-BFGL-NGS-84327	Discovery	rs41681601	ss86314715	T/C	A/G	13	5774000	UMD3.1	ARS-BFGL-NGS-84327-0_B_F_1511690432
ARS-BFGL-NGS-92946	Discovery	rs41679621	ss86323130	T/C	A/G	13	16399441	UMD3.1	ARS-BFGL-NGS-92946-0_T_R_1511691623
BTA-102818-NO-RS	Discovery	rs41612098	ss61513418	A/C	A/C	13	83632355	UMD3.1	BTA-102818-no-rs-0_T_F_1511596590
BTB-01124378	Discovery	rs42283006	ss63589116	A/G	A/G	13	6600008	UMD3.1	BTB-01124378-0_B_R_1511612899
BTB-01141508	Discovery	rs42300745	ss63640372	T/G	A/C	13	679009	UMD3.1	BTB-01141508-0_T_R_1544355623
BTB-01141770	Discovery	rs42303607	ss63641158	T/C	A/G	13	777430	UMD3.1	BTB-01141770-0_T_R_1544349343
BTB-01656080	Discovery	rs42771121	ss64674033	A/G	A/G	13	51621880	UMD3.1	BTB-01656080-0_B_R_1544359918
HAPMAP23870-BTA-128381	Discovery	rs41690422	ss117970697	T/G	A/C	13	43427963	UMD3.1	Hapmap23870-BTA-128381-0_B_F_1509277687
HAPMAP26649-BTA-128159	Discovery	rs41679704	ss117970743	T/C	A/G	13	19734286	UMD3.1	Hapmap26649-BTA-128159-0_T_R_1509296202
HAPMAP50266-BTA-13664	Discovery	rs29018622	ss38335716	A/G	A/G	13	18536707	UMD3.1	Hapmap50266-BTA-13664-0_B_R_1511602957
HAPMAP54459-RS29016219	Discovery	rs29016219	ss38332719	A/G	A/G	13	12436043	UMD3.1	Hapmap54459-rs29016219-0_T_F_1509330608
HAPMAP57586-RS29015232	Discovery	rs29015232	ss38326931	T/C	A/G	13	6396120	UMD3.1	Hapmap57586-rs29015232-0_B_F_1509325299
HAPMAP59420-SS46527113	Discovery	rs41255656	ss46527113	A/G	A/G	13	35533998	UMD3.1	Hapmap59420-ss46527113-0_T_F_1511547718
ARS-BFGL-NGS-103691	Discovery	rs109895974	ss86330883	A/G	A/G	19	53473744	UMD3.1	ARS-BFGL-NGS-103691-0_T_F_1511670483
ARS-BFGL-NGS-1097	Discovery	rs110474375	ss86274483	T/C	A/G	19	34836416	UMD3.1	ARS-BFGL-NGS-1097-0_B_F_1511679994
ARS-BFGL-NGS-112392	Discovery	rs41925019	ss86338991	T/G	A/C	19	56341205	UMD3.1	ARS-BFGL-NGS-112392-0_T_R_1511647715
ARS-BFGL-NGS-114067	Discovery	rs110706642	ss86339580	T/C	A/G	19	46117735	UMD3.1	ARS-BFGL-NGS-114067-0_B_F_1511648466

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
ARS-BFGL-NGS-12595	Discovery	rs109076010	ss86292850	T/C	A/G	19	55101341	UMD3.1	ARS-BFGL-NGS-12595-0_T_R_1511682675
ARS-BFGL-NGS-16504	Discovery	rs110727417	ss86305593	A/C	A/C	19	55967853	UMD3.1	ARS-BFGL-NGS-16504-0_B_R_1544345388
ARS-BFGL-NGS-28504	Discovery	rs109751693	ss86285474	A/G	A/G	19	44403315	UMD3.1	ARS-BFGL-NGS-28504-0_T_F_1511665453
ARS-BFGL-NGS-32769	Discovery	rs110865656	ss86300067	T/C	A/G	19	22346456	UMD3.1	ARS-BFGL-NGS-32769-0_T_R_1511665755
ARS-BFGL-NGS-32846	Discovery	rs109282926	ss86335598	A/G	A/G	19	63560230	UMD3.1	ARS-BFGL-NGS-32846-0_T_F_1511675469
ARS-BFGL-NGS-33000	Discovery	rs110046289	ss86296211	A/G	A/G	19	10542886	UMD3.1	ARS-BFGL-NGS-33000-0_B_R_1544347646
ARS-BFGL-NGS-42338	Discovery	rs110407219	ss86295481	A/G	A/G	19	17326249	UMD3.1	ARS-BFGL-NGS-42338-0_T_F_1544350037
ARS-BFGL-NGS-45547	Discovery	rs42429829	ss86306230	A/G	A/G	19	62478817	UMD3.1	ARS-BFGL-NGS-45547-0_B_R_1511683056
ARS-BFGL-NGS-6269	Discovery	rs110000667	ss86295403	A/G	A/G	19	29411883	UMD3.1	ARS-BFGL-NGS-6269-0_T_F_1511650625
ARS-BFGL-NGS-64451	Discovery	rs110466604	ss86294159	T/C	A/G	19	60407194	UMD3.1	ARS-BFGL-NGS-64451-0_B_F_1511650804
ARS-BFGL-NGS-73980	Discovery	rs110514489	ss86304368	T/C	A/G	19	51419352	UMD3.1	ARS-BFGL-NGS-73980-0_T_R_1511671939
BTA-118486-NO-RS	Discovery	rs41572555	ss61474763	T/C	A/G	19	21716537	UMD3.1	BTA-118486-no-rs-0_T_R_1511614140
BTB-00736933	Discovery	rs41895988	ss62513857	A/C	A/C	19	8280552	UMD3.1	BTB-00736933-0_B_R_1544355214
HAPMAP26973-BTA-147422	Discovery	rs110392985	ss117972526	T/C	A/G	19	12340926	UMD3.1	Hapmap26973-BTA-147422-0_T_R_1510727894
HAPMAP40170-BTA-20573	Discovery	rs41623352	ss117972620	T/G	A/C	19	19175183	UMD3.1	Hapmap40170-BTA-20573-0_B_F_1511628169
HAPMAP42556-BTA-45815	Discovery	rs41636899	ss61540754	T/C	A/G	19	51445450	UMD3.1	Hapmap42556-BTA-45815-0_T_R_1509324776
HAPMAP46758-BTA-108921	Discovery	rs41571534	ss61472509	A/G	A/G	19	26182297	UMD3.1	Hapmap46758-BTA-108921-0_T_F_1511576932

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
HAPMAP57648-RS29022376	Discovery	rs29022376	ss38330872	A/G	A/G	19	22709090	UMD3.1	Hapmap57648-rs29022376-0_B_R_1511547537
HAPMAP58587-SS46526997	Discovery	rs41255542	ss46526997	A/G	A/G	19	24972085	UMD3.1	Hapmap58587-ss46526997-0_T_F_1511547114
UA-IFASA-7987	Discovery	rs41640012	ss117965319	A/G	A/G	19	18799689	UMD3.1	UA-IFASA-7987-0_T_F_1511687285
UA-IFASA-8658	Discovery	rs41665355	ss117965384	T/G	A/C	19	47415500	UMD3.1	UA-IFASA-8658-1_T_R_2128295787
ARS-BFGL-NGS-104603	Discovery	rs110316813	ss86335025	A/G	A/G	21	2918184	UMD3.1	ARS-BFGL-NGS-104603-0_B_R_1544344492
ARS-BFGL-NGS-109907	Discovery	rs110229647	ss86337107	T/C	A/G	21	12539191	UMD3.1	ARS-BFGL-NGS-109907-0_B_F_1511638976
ARS-BFGL-NGS-114538	Discovery	rs109726203	ss86339325	T/C	A/G	21	70521657	UMD3.1	ARS-BFGL-NGS-114538-0_T_R_1511647835
ARS-BFGL-NGS-115346	Discovery	rs109826517	ss86339596	T/C	A/G	21	67515244	UMD3.1	ARS-BFGL-NGS-115346-0_B_F_1511647540
ARS-BFGL-NGS-115598	Discovery	rs110842067	ss86340340	T/C	A/G	21	62709685	UMD3.1	ARS-BFGL-NGS-115598-0_T_R_1511654275
ARS-BFGL-NGS-117619	Discovery	rs110351726	ss86338139	A/G	A/G	21	31035761	UMD3.1	ARS-BFGL-NGS-117619-0_T_F_1511653035
ARS-BFGL-NGS-13360	Discovery	rs42267294	ss86340145	A/G	A/G	21	30118274	UMD3.1	ARS-BFGL-NGS-13360-0_T_F_1511639523
ARS-BFGL-NGS-16249	Discovery	rs109396729	ss86298800	T/C	A/G	21	10944434	UMD3.1	ARS-BFGL-NGS-16249-0_B_F_1511639348
ARS-BFGL-NGS-22685	Discovery	rs110574752	ss86306574	T/C	A/G	21	46877052	UMD3.1	ARS-BFGL-NGS-22685-v2-1_T_R_1924247540
ARS-BFGL-NGS-23813	Discovery	rs109453755	ss86326298	A/C	A/C	21	42540260	UMD3.1	ARS-BFGL-NGS-23813-0_B_R_1544346514
ARS-BFGL-NGS-25959	Discovery	rs109290113	ss86298390	T/C	A/G	21	64354251	UMD3.1	ARS-BFGL-NGS-25959-0_T_R_1511656249
ARS-BFGL-NGS-2644	Discovery	rs110204931	ss86308993	T/C	A/G	21	70608408	UMD3.1	ARS-BFGL-NGS-2644-0_T_R_1511660597
ARS-BFGL-NGS-37484	Discovery	rs110976149	ss86325665	T/C	A/G	21	68683196	UMD3.1	ARS-BFGL-NGS-37484-0_B_F_1544347466

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
ARS-BFGL-NGS-44686	Discovery	rs110105912	ss86311678	T/C	A/G	21	9190518	UMD3.1	ARS-BFGL-NGS-44686-0_T_R_1544350625
ARS-BFGL-NGS-8229	Discovery	rs41970500	ss86321762	T/C	A/G	21	22156279	UMD3.1	ARS-BFGL-NGS-8229-0_B_F_1511685614
BTB-00806621	Discovery	rs43725759	ss62700450	A/G	A/G	21	18912588	UMD3.1	BTB-00806621-0_B_R_1511584271
BTB-01303828	Discovery	rs42428520	ss64005684	T/C	A/G	21	37143433	UMD3.1	BTB-01303828-0_T_R_1544355703
BTB-01375460	Discovery	rs42499708	ss64148441	A/G	A/G	21	51325226	UMD3.1	BTB-01375460-0_B_R_1544360150
HAPMAP26512-BTA-52638	Discovery	rs41608374	ss61502567	T/C	A/G	21	55483469	UMD3.1	Hapmap26512-BTA-52638-0_B_F_1510715283
HAPMAP38899-BTA-52139	Discovery	rs41641697	ss61544199	A/C	A/C	21	36492508	UMD3.1	Hapmap38899-BTA-52139-0_B_R_1509288055
HAPMAP52072-RS29018920	Discovery	rs29018920	ss38336017	A/C	A/C	21	2333804	UMD3.1	Hapmap52072-rs29018920-0_T_F_1544359377
HAPMAP53212-RS29015272	Discovery	rs29015272	ss38326971	T/C	A/G	21	25704052	UMD3.1	Hapmap53212-rs29015272-0_B_F_1511601897
HAPMAP57137-RS29011525	Discovery	rs29011525	ss38325820	T/C	A/G	21	18454966	UMD3.1	Hapmap57137-rs29011525-0_T_R_1509328136
ARS-BFGL-BAC-693	MS Imputation	rs109384003	ss105301409	A/G	A/G	1	132555764	UMD3.1	ARS-BFGL-BAC-693_dup-0_T_F_2253193347
ARS-BFGL-NGS-10202	MS Imputation	rs110639763	ss86303189	T/C	A/G	9	10838261	UMD3.1	ARS-BFGL-NGS-10202-128_B_F_2255834324
ARS-BFGL-NGS-104549	MS Imputation	rs108944935	ss86334663	A/G	A/G	21	57731221	UMD3.1	ARS-BFGL-NGS-104549-128_B_R_2255834337
ARS-BFGL-NGS-104746	MS Imputation	rs109256605	ss86334364	T/C	A/G	5	56618321	UMD3.1	ARS-BFGL-NGS-104746-0_B_F_1511670474
ARS-BFGL-NGS-110521	MS Imputation	rs109552147	ss86340012	G/C	C/G	18	65447640	UMD3.1	ARS-BFGL-NGS-110521_dup-0_T_R_2253187373
ARS-BFGL-NGS-113982	MS Imputation	rs43335481	ss86340459	A/G	A/G	3	33182228	UMD3.1	ARS-BFGL-NGS-113982-0_T_F_1511643029
ARS-BFGL-NGS-114597	MS Imputation	rs110308812	ss86338509	A/C	A/C	19	56533680	UMD3.1	ARS-BFGL-NGS-114597-0_B_R_1511644294

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
ARS-BFGL-NGS-117167	MS Imputation	rs110897956	ss86337514	T/G	A/C	23	39157565	UMD3.1	ARS-BFGL-NGS-117167-0_B_F_1511653938
ARS-BFGL-NGS-119234	MS Imputation	rs109213237	ss86335686	A/C	A/C	5	56876453	UMD3.1	ARS-BFGL-NGS-119234-128_T_F_2255834309
ARS-BFGL-NGS-119716	MS Imputation	rs109025111	ss86340035	T/C	A/G	21	57765296	UMD3.1	ARS-BFGL-NGS-119716-1_B_F_2128031538
ARS-BFGL-NGS-12528	MS Imputation	rs109973478	ss86299194	A/G	A/G	5	56515069	UMD3.1	ARS-BFGL-NGS-12528_dup-0_T_F_2253187954
ARS-BFGL-NGS-13463	MS Imputation	rs110623387	ss86274062	T/G	A/C	16	25748026	UMD3.1	ARS-BFGL-NGS-13463-0_B_F_1511639370
ARS-BFGL-NGS-14671	MS Imputation	rs109499295	ss86319955	A/G	A/G	3	32922670	UMD3.1	ARS-BFGL-NGS-14671-128_B_R_2255834261
ARS-BFGL-NGS-14781	MS Imputation	rs111027205	ss86285054	A/G	A/G	5	56766165	UMD3.1	ARS-BFGL-NGS-14781-0_B_R_1544345406
ARS-BFGL-NGS-15866	MS Imputation	rs109611350	ss86302425	T/G	A/C	1	132591352	UMD3.1	ARS-BFGL-NGS-15866-128_B_F_2255766561
ARS-BFGL-NGS-17513	MS Imputation	rs109383864	ss86286049	T/C	A/G	9	10961715	UMD3.1	ARS-BFGL-NGS-17513_dup-0_T_R_2253186707
ARS-BFGL-NGS-2501	MS Imputation	rs110706696	ss86336793	A/C	A/C	15	24208838	UMD3.1	ARS-BFGL-NGS-2501_dup-0_B_R_2253181713
ARS-BFGL-NGS-32306	MS Imputation	rs110504889	ss86303784	A/G	A/G	20	21967184	UMD3.1	ARS-BFGL-NGS-32306-0_T_F_1511666633
ARS-BFGL-NGS-33925	MS Imputation	rs109536727	ss86284581	A/G	A/G	19	56558475	UMD3.1	ARS-BFGL-NGS-33925-0_B_R_1511674338
ARS-BFGL-NGS-34923	MS Imputation	rs110830358	ss86304896	A/G	A/G	20	22093001	UMD3.1	ARS-BFGL-NGS-34923-128_T_F_2255834381
ARS-BFGL-NGS-37095	MS Imputation	rs110776878	ss86287434	A/G	A/G	1	132497074	UMD3.1	ARS-BFGL-NGS-37095-0_B_R_1511674016
ARS-BFGL-NGS-38953	MS Imputation	rs109847261	ss86301721	T/C	A/G	3	32988739	UMD3.1	ARS-BFGL-NGS-38953-Unknown_T_R_IFB1197146142:0
ARS-BFGL-NGS-39863	MS Imputation	rs110786975	ss86301249	T/C	A/G	21	57523947	UMD3.1	ARS-BFGL-NGS-39863-0_T_R_1511684171
ARS-BFGL-NGS-41408	MS Imputation	rs111020559	ss86310438	T/C	A/G	2	124137395	UMD3.1	ARS-BFGL-NGS-41408_dup-0_T_R_2253182227

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
ARS-BFGL-NGS-42405	MS Imputation	rs110910735	ss86322517	T/G	A/C	19	56629783	UMD3.1	ARS-BFGL-NGS-42405-128_T_R_2255834363
ARS-BFGL-NGS-4763	MS Imputation	rs110847917	ss86312879	A/G	A/G	5	56585423	UMD3.1	ARS-BFGL-NGS-4763-0_B_R_1544350620
ARS-BFGL-NGS-52849	MS Imputation	rs110677902	ss86283033	A/C	A/C	3	32964782	UMD3.1	ARS-BFGL-NGS-52849-128_T_F_2255766566
ARS-BFGL-NGS-54715	MS Imputation	rs109125057	ss86285154	T/G	A/C	2	124052334	UMD3.1	ARS-BFGL-NGS-54715-0_B_F_1511641926
ARS-BFGL-NGS-5992	MS Imputation	rs111011056	ss86317004	A/G	A/G	20	22114399	UMD3.1	ARS-BFGL-NGS-5992-0_T_F_1544351137
ARS-BFGL-NGS-62504	MS Imputation	rs110767005	ss86292824	A/G	A/G	2	124265089	UMD3.1	ARS-BFGL-NGS-62504-0_B_R_1511651272
ARS-BFGL-NGS-63081	MS Imputation	rs110145227	ss86292908	T/G	A/C	2	124108914	UMD3.1	ARS-BFGL-NGS-63081-0_B_F_1511652140
ARS-BFGL-NGS-64276	MS Imputation	rs109437129	ss86294477	A/G	A/G	23	39282627	UMD3.1	ARS-BFGL-NGS-64276-128_T_F_2255834291
ARS-BFGL-NGS-65373	MS Imputation	rs110650721	ss86295659	A/C	A/C	20	22206456	UMD3.1	ARS-BFGL-NGS-65373-128_T_F_2255766570
ARS-BFGL-NGS-65726	MS Imputation	rs109843653	ss86295961	T/C	A/G	19	56728476	UMD3.1	ARS-BFGL-NGS-65726-128_T_R_2255766571
ARS-BFGL-NGS-65768	MS Imputation	rs110518536	ss86295017	A/G	A/G	23	39303680	UMD3.1	ARS-BFGL-NGS-65768-0_B_R_1511651874
ARS-BFGL-NGS-68709	MS Imputation	rs110571632	ss86298366	T/C	A/G	21	57603552	UMD3.1	ARS-BFGL-NGS-68709_dup-0_T_R_2253182321
ARS-BFGL-NGS-69065	MS Imputation	rs109344577	ss86299708	T/C	A/G	3	33040502	UMD3.1	ARS-BFGL-NGS-69065-128_B_F_2255834303
ARS-BFGL-NGS-87354	MS Imputation	rs109975348	ss86318269	A/G	A/G	23	39383906	UMD3.1	ARS-BFGL-NGS-87354-0_T_F_1511689871
ARS-BFGL-NGS-87397	MS Imputation	rs110333174	ss86318346	A/G	A/G	15	24167440	UMD3.1	ARS-BFGL-NGS-87397-0_T_F_1511690833
ARS-BFGL-NGS-89862	MS Imputation	rs110018891	ss86319706	T/G	A/C	19	56660567	UMD3.1	ARS-BFGL-NGS-89862-0_T_R_1511690099
BOVINEHD0100037693	MS Imputation	rs132750836	ss250643014	A/G	A/G	1	132339365	UMD3.1	BovineHD0100037693_dup-1_B_R_2253182508

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD0100037694	MS Imputation	rs134490401	ss250643015	T/C	A/G	1	132340097	UMD3.1	BovineHD0100037694-128_T_R_2255327284
BOVINEHD0100037696	MS Imputation	rs132984031	ss250643017	A/G	A/G	1	132343817	UMD3.1	BovineHD0100037696-128_T_F_2255347450
BOVINEHD0100037698	MS Imputation	rs135634411	ss250643019	A/G	A/G	1	132347489	UMD3.1	BovineHD0100037698-1_B_R_1763859163
BOVINEHD0100037699	MS Imputation	rs136721390	ss250643020	T/C	A/G	1	132350680	UMD3.1	BovineHD0100037699-128_T_R_2255339590
BOVINEHD0100037700	MS Imputation	rs134340541	ss250643021	A/G	A/G	1	132370021	UMD3.1	BovineHD0100037700-128_T_F_2255342259
BOVINEHD0100037701	MS Imputation	rs135593872	ss250643022	T/C	A/G	1	132370985	UMD3.1	BovineHD0100037701-128_T_R_2255327715
BOVINEHD0100037702	MS Imputation	rs133267459	ss250643023	A/G	A/G	1	132372939	UMD3.1	BovineHD0100037702-128_B_R_2255339124
BOVINEHD0100037703	MS Imputation	rs134517265	ss250643024	A/G	A/G	1	132373633	UMD3.1	BovineHD0100037703-128_B_R_2255331366
BOVINEHD0100037704	MS Imputation	rs137836524	ss250643025	T/C	A/G	1	132375567	UMD3.1	BovineHD0100037704-128_T_R_2255346615
BOVINEHD0100037705	MS Imputation	rs110800926	ss250643026	T/C	A/G	1	132380410	UMD3.1	BovineHD0100037705-128_B_F_2255335236
BOVINEHD0100037708	MS Imputation	rs136073060	ss250643028	A/G	A/G	1	132390445	UMD3.1	BovineHD0100037708_dup-1_T_F_2253182514
BOVINEHD0100037709	MS Imputation	rs133782246	ss250643029	T/C	A/G	1	132398347	UMD3.1	BovineHD0100037709-1_B_F_1763859172
BOVINEHD0100037710	MS Imputation	rs136046377	ss250643030	T/C	A/G	1	132401905	UMD3.1	BovineHD0100037710-128_T_R_2255322919
BOVINEHD0100037711	MS Imputation	rs136498927	ss250643031	A/G	A/G	1	132406194	UMD3.1	BovineHD0100037711_dup-1_B_R_2253194827
BOVINEHD0100037712	MS Imputation	rs134019125	ss250643032	A/G	A/G	1	132409877	UMD3.1	BovineHD0100037712_dup-1_B_R_2253194829
BOVINEHD0100037713	MS Imputation	rs110842061	ss250643033	A/G	A/G	1	132414497	UMD3.1	BovineHD0100037713-128_B_R_2255339646
BOVINEHD0100037714	MS Imputation	rs110105415	ss250643034	T/C	A/G	1	132417157	UMD3.1	BovineHD0100037714-1_B_F_1763859178

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD0100037715	MS Imputation	rs109735870	ss250643035	A/G	A/G	1	132418749	UMD3.1	BovineHD0100037715-128_T_F_2255342570
BOVINEHD0100037716	MS Imputation	rs137450026	ss250643036	A/G	A/G	1	132429135	UMD3.1	BovineHD0100037716-128_B_R_2255347066
BOVINEHD0100037717	MS Imputation	rs110780049	ss250643037	T/C	A/G	1	132433521	UMD3.1	BovineHD0100037717-1_B_F_1763859182
BOVINEHD0100037718	MS Imputation	rs109627163	ss250643038	A/C	A/C	1	132437217	UMD3.1	BovineHD0100037718-128_T_F_2255351888
BOVINEHD0100037719	MS Imputation	rs109241307	ss250643039	T/G	A/C	1	132439806	UMD3.1	BovineHD0100037719-128_T_R_2255327338
BOVINEHD0100037720	MS Imputation	rs109998859	ss250643040	A/G	A/G	1	132451691	UMD3.1	BovineHD0100037720-128_B_R_2255342455
BOVINEHD0100037722	MS Imputation	rs110510824	ss250643041	A/G	A/G	1	132456625	UMD3.1	BovineHD0100037722-128_B_R_2255332355
BOVINEHD0100037725	MS Imputation	rs110494880	ss250643042	A/G	A/G	1	132467763	UMD3.1	BovineHD0100037725-1_B_R_1763859189
BOVINEHD0100037726	MS Imputation	rs136718862	ss250643043	A/G	A/G	1	132469256	UMD3.1	BovineHD0100037726-128_B_R_2255332609
BOVINEHD0100037727	MS Imputation	rs134803695	ss250643044	A/G	A/G	1	132470233	UMD3.1	BovineHD0100037727-1_B_R_1763859193
BOVINEHD0100037728	MS Imputation	rs110041386	ss250643045	T/C	A/G	1	132476341	UMD3.1	BovineHD0100037728-128_T_R_2255352639
BOVINEHD0100037729	MS Imputation	rs133433930	ss250643046	A/G	A/G	1	132480247	UMD3.1	BovineHD0100037729-1_B_R_1763859195
BOVINEHD0100037730	MS Imputation	rs109794803	ss250643047	A/G	A/G	1	132484240	UMD3.1	BovineHD0100037730-1_B_R_1763859197
BOVINEHD0100037731	MS Imputation	rs136530161	ss250643048	A/G	A/G	1	132487633	UMD3.1	BovineHD0100037731-128_B_R_2255334763
BOVINEHD0100037732	MS Imputation	rs108980751	ss250643049	A/G	A/G	1	132491191	UMD3.1	BovineHD0100037732-128_T_F_2255337370
BOVINEHD0100037733	MS Imputation	rs137454952	ss250643050	T/G	A/C	1	132498578	UMD3.1	BovineHD0100037733_dup-1_T_R_2253194841
BOVINEHD0100037734	MS Imputation	rs110264752	ss250643051	A/G	A/G	1	132505611	UMD3.1	BovineHD0100037734-128_T_F_2255338315

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD0100037735	MS Imputation	rs136874486	ss250643052	T/C	A/G	1	132507347	UMD3.1	BovineHD0100037735-128_T_R_2255350877
BOVINEHD0100037736	MS Imputation	rs135423414	ss250643053	T/C	A/G	1	132512485	UMD3.1	BovineHD0100037736-128_B_F_2255331207
BOVINEHD0100037737	MS Imputation	rs132926301	ss250643054	A/C	A/C	1	132521413	UMD3.1	BovineHD0100037737-128_B_R_2255343123
BOVINEHD0100037738	MS Imputation	rs133694135	ss250643055	T/C	A/G	1	132527877	UMD3.1	BovineHD0100037738-1_T_R_1763639428
BOVINEHD0100037741	MS Imputation	rs132677090	ss250643057	A/G	A/G	1	132531726	UMD3.1	BovineHD0100037741-128_B_R_2255338452
BOVINEHD0100037742	MS Imputation	rs134382459	ss250643058	T/C	A/G	1	132532832	UMD3.1	BovineHD0100037742-128_T_R_2255348498
BOVINEHD0100037743	MS Imputation	rs109849408	ss250643059	T/C	A/G	1	132533658	UMD3.1	BovineHD0100037743-128_B_F_2255337711
BOVINEHD0100037744	MS Imputation	rs110208777	ss250643060	A/C	A/C	1	132536174	UMD3.1	BovineHD0100037744-1_T_F_1763639449
BOVINEHD0100037748	MS Imputation	rs109095894	ss250643064	A/C	A/C	1	132544411	UMD3.1	BovineHD0100037748-128_B_R_2255351512
BOVINEHD0100037749	MS Imputation	rs136228157	ss250643065	A/G	A/G	1	132545792	UMD3.1	BovineHD0100037749-128_B_R_2255342465
BOVINEHD0100037751	MS Imputation	rs109489071	ss250643067	A/C	A/C	1	132552990	UMD3.1	BovineHD0100037751-128_T_F_2255331987
BOVINEHD0100037752	MS Imputation	rs137807292	ss250643068	A/G	A/G	1	132555083	UMD3.1	BovineHD0100037752-128_B_R_2255347876
BOVINEHD0100037753	MS Imputation	rs133770311	ss250643069	A/G	A/G	1	132556716	UMD3.1	BovineHD0100037753-128_B_R_2255339466
BOVINEHD0100037754	MS Imputation	rs137224066	ss250643070	T/C	A/G	1	132563820	UMD3.1	BovineHD0100037754-128_B_F_2255344254
BOVINEHD0100037755	MS Imputation	rs135760988	ss250643071	T/G	A/C	1	132566579	UMD3.1	BovineHD0100037755_dup-1_B_F_2253182557
BOVINEHD0100037756	MS Imputation	rs133930632	ss250643072	A/C	A/C	1	132570640	UMD3.1	BovineHD0100037756-128_T_F_2255339231
BOVINEHD0100037757	MS Imputation	rs135175397	ss250643073	T/G	A/C	1	132572701	UMD3.1	BovineHD0100037757-128_B_F_2255326600

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD0100037758	MS Imputation	rs132767812	ss250643074	T/C	A/G	1	132585060	UMD3.1	BovineHD0100037758-128_T_R_2255324608
BOVINEHD0100037759	MS Imputation	rs109306506	ss250643075	T/C	A/G	1	132593410	UMD3.1	BovineHD0100037759-128_B_F_2255325256
BOVINEHD0100037761	MS Imputation	rs135413547	ss250643076	T/G	A/C	1	132598425	UMD3.1	BovineHD0100037761-128_B_F_2255343472
BOVINEHD0100037762	MS Imputation	rs109011366	ss250643077	A/G	A/G	1	132600199	UMD3.1	BovineHD0100037762-1_B_R_1763859236
BOVINEHD0100037763	MS Imputation	rs134180678	ss250643078	A/G	A/G	1	132609109	UMD3.1	BovineHD0100037763-128_T_F_2255325460
BOVINEHD0100037764	MS Imputation	rs136266051	ss250643079	A/C	A/C	1	132610514	UMD3.1	BovineHD0100037764-128_T_F_2255323700
BOVINEHD0100037765	MS Imputation	rs109888966	ss250643080	A/G	A/G	1	132612093	UMD3.1	BovineHD0100037765-128_T_F_2255346323
BOVINEHD0100037766	MS Imputation	rs109285953	ss250643081	T/G	A/C	1	132613763	UMD3.1	BovineHD0100037766-128_B_F_2255342466
BOVINEHD0100037767	MS Imputation	rs136304472	ss250643082	T/C	A/G	1	132617712	UMD3.1	BovineHD0100037767-128_T_R_2255332121
BOVINEHD0100037768	MS Imputation	rs110944200	ss250643083	A/G	A/G	1	132625729	UMD3.1	BovineHD0100037768_dup-1_B_R_2253194867
BOVINEHD0100037769	MS Imputation	rs110255139	ss250643084	A/G	A/G	1	132627173	UMD3.1	BovineHD0100037769-128_B_R_2255338746
BOVINEHD0200036992	MS Imputation	rs135981651	ss250685458	T/C	A/G	2	127440677	UMD3.1	BovineHD0200036992-128_T_R_2255327681
BOVINEHD0200036993	MS Imputation	rs109508082	ss250685459	T/C	A/G	2	127445878	UMD3.1	BovineHD0200036993-1_T_R_1763823877
BOVINEHD0200036995	MS Imputation	rs137793493	ss250685461	T/C	A/G	2	127451903	UMD3.1	BovineHD0200036995-128_B_F_2255325869
BOVINEHD0200036996	MS Imputation	rs109752387	ss250685462	A/G	A/G	2	127452476	UMD3.1	BovineHD0200036996_dup-1_B_R_2253182719
BOVINEHD0200036997	MS Imputation	rs109541061	ss250685463	T/G	A/C	2	127453619	UMD3.1	BovineHD0200036997-128_B_F_2255325988
BOVINEHD0200036998	MS Imputation	rs136524312	ss250685464	T/C	A/G	2	127459571	UMD3.1	BovineHD0200036998-128_T_R_2255323355

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD0200036999	MS Imputation	rs134068753	ss250685465	A/C	A/C	2	127462908	UMD3.1	BovineHD0200036999-128_T_F_2255346600
BOVINEHD0200037000	MS Imputation	rs137410959	ss250685466	A/G	A/G	2	127465481	UMD3.1	BovineHD0200037000-1_T_F_1763823918
BOVINEHD0200037001	MS Imputation	rs132844273	ss250685467	T/C	A/G	2	127468992	UMD3.1	BovineHD0200037001-128_T_R_2255328888
BOVINEHD0200037002	MS Imputation	rs137072832	ss250685468	A/G	A/G	2	127476802	UMD3.1	BovineHD0200037002_dup-1_T_F_2253182728
BOVINEHD0200037003	MS Imputation	rs135369853	ss250685469	A/C	A/C	2	127480295	UMD3.1	BovineHD0200037003_dup-1_T_F_2253182730
BOVINEHD0200037004	MS Imputation	rs136655327	ss250685470	A/G	A/G	2	127483123	UMD3.1	BovineHD0200037004-128_T_F_2255344240
BOVINEHD0200037006	MS Imputation	rs134135624	ss250685471	T/C	A/G	2	127488668	UMD3.1	BovineHD0200037006-1_T_R_1763823956
BOVINEHD0200037007	MS Imputation	rs135338861	ss250685472	T/C	A/G	2	127491652	UMD3.1	BovineHD0200037007_dup-1_B_F_2253182736
BOVINEHD0200037008	MS Imputation	rs110838639	ss250685473	A/C	A/C	2	127496020	UMD3.1	BovineHD0200037008-128_B_R_2255350515
BOVINEHD0200037009	MS Imputation	rs110292110	ss250685474	T/C	A/G	2	127498764	UMD3.1	BovineHD0200037009-128_B_F_2255338166
BOVINEHD0200037010	MS Imputation	rs137646004	ss250685475	T/C	A/G	2	127499484	UMD3.1	BovineHD0200037010-128_B_F_2255342610
BOVINEHD0200037011	MS Imputation	rs133311785	ss250685476	T/C	A/G	2	127503293	UMD3.1	BovineHD0200037011-1_B_F_1764037313
BOVINEHD0200037012	MS Imputation	rs137228456	ss250685477	A/G	A/G	2	127506706	UMD3.1	BovineHD0200037012_dup-1_T_F_2253194964
BOVINEHD0200037013	MS Imputation	rs136251140	ss250685478	T/C	A/G	2	127511169	UMD3.1	BovineHD0200037013_dup-1_T_R_2253182746
BOVINEHD0200037014	MS Imputation	rs110869940	ss250685479	T/C	A/G	2	127514835	UMD3.1	BovineHD0200037014-1_T_R_1763823980
BOVINEHD0200037016	MS Imputation	rs136392525	ss250685481	A/G	A/G	2	127526531	UMD3.1	BovineHD0200037016-128_B_R_2255345385
BOVINEHD0200037017	MS Imputation	rs109819333	ss250685482	T/C	A/G	2	127530081	UMD3.1	BovineHD0200037017-128_T_R_2255333399

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD0200037018	MS Imputation	rs135429381	ss250685483	T/C	A/G	2	127532867	UMD3.1	BovineHD0200037018-1_B_F_1764037328
BOVINEHD0200037019	MS Imputation	rs109456589	ss250685484	T/C	A/G	2	127540073	UMD3.1	BovineHD0200037019-128_B_F_2255345049
BOVINEHD0200037020	MS Imputation	rs133761638	ss250685485	A/G	A/G	2	127543487	UMD3.1	BovineHD0200037020_dup-1_T_F_2253194971
BOVINEHD0200037021	MS Imputation	rs110686814	ss250685486	A/G	A/G	2	127549465	UMD3.1	BovineHD0200037021-128_B_R_2255351963
BOVINEHD0200037022	MS Imputation	rs109071956	ss250685487	T/C	A/G	2	127550462	UMD3.1	BovineHD0200037022-1_B_F_1764037337
BOVINEHD0200037023	MS Imputation	rs110479598	ss250685488	A/C	A/C	2	127557230	UMD3.1	BovineHD0200037023-128_T_F_2255326271
BOVINEHD0200037024	MS Imputation	rs110986208	ss250685489	T/C	A/G	2	127563619	UMD3.1	BovineHD0200037024_dup-1_B_F_2253182753
BOVINEHD0200037025	MS Imputation	rs132862097	ss250685490	A/G	A/G	2	127566752	UMD3.1	BovineHD0200037025-128_B_R_2255349993
BOVINEHD0200037026	MS Imputation	rs137060141	ss250685491	T/C	A/G	2	127570554	UMD3.1	BovineHD0200037026-128_B_F_2255329274
BOVINEHD0200037027	MS Imputation	rs110446879	ss250685492	T/G	A/C	2	127576761	UMD3.1	BovineHD0200037027-128_T_R_2255322744
BOVINEHD0200037028	MS Imputation	rs108980001	ss250685493	T/C	A/G	2	127577605	UMD3.1	BovineHD0200037028-128_T_R_2255345369
BOVINEHD0200037029	MS Imputation	rs110773074	ss250685494	T/G	A/C	2	127582649	UMD3.1	BovineHD0200037029_dup-1_T_R_2253182755
BOVINEHD0200037030	MS Imputation	rs137527489	ss250685495	T/C	A/G	2	127588442	UMD3.1	BovineHD0200037030_dup-1_B_F_2253182756
BOVINEHD0200037031	MS Imputation	rs110397756	ss250685496	A/G	A/G	2	127592315	UMD3.1	BovineHD0200037031-128_T_F_2255344742
BOVINEHD0200037032	MS Imputation	rs110684542	ss250685497	T/C	A/G	2	127593144	UMD3.1	BovineHD0200037032-128_B_F_2255342388
BOVINEHD0200037033	MS Imputation	rs109742776	ss250685498	A/G	A/G	2	127595896	UMD3.1	BovineHD0200037033-1_B_R_1764037365
BOVINEHD0200037034	MS Imputation	rs133393385	ss250685499	A/G	A/G	2	127597240	UMD3.1	BovineHD0200037034_dup-1_B_R_2253194992

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD0200037035	MS Imputation	rs110480115	ss250685500	A/G	A/G	2	127598142	UMD3.1	BovineHD0200037035-128_B_R_2255323970
BOVINEHD0200037036	MS Imputation	rs109100680	ss250685501	A/G	A/G	2	127598874	UMD3.1	BovineHD0200037036-128_B_R_2255326637
BOVINEHD0200037037	MS Imputation	rs136971698	ss250685502	T/C	A/G	2	127599569	UMD3.1	BovineHD0200037037-128_B_F_2255327141
BOVINEHD0200037038	MS Imputation	rs134596494	ss250685503	A/G	A/G	2	127600234	UMD3.1	BovineHD0200037038-128_T_F_2255347168
BOVINEHD0200037040	MS Imputation	rs133628193	ss250685505	T/G	A/C	2	127606024	UMD3.1	BovineHD0200037040-128_T_R_2255350019
BOVINEHD0200037041	MS Imputation	rs135292015	ss250685506	A/G	A/G	2	127606580	UMD3.1	BovineHD0200037041-128_B_R_2255325437
BOVINEHD0200037043	MS Imputation	rs109427102	ss250685507	A/G	A/G	2	127608234	UMD3.1	BovineHD0200037043-128_B_R_2255346773
BOVINEHD0200037044	MS Imputation	rs109843913	ss250685508	A/G	A/G	2	127610165	UMD3.1	BovineHD0200037044-128_B_R_2255346685
BOVINEHD0200037045	MS Imputation	rs110504057	ss250685509	A/C	A/C	2	127611615	UMD3.1	BovineHD0200037045-128_B_R_2255351424
BOVINEHD0200037046	MS Imputation	rs109627447	ss250685510	A/G	A/G	2	127612583	UMD3.1	BovineHD0200037046-128_T_F_2255338173
BOVINEHD0200037047	MS Imputation	rs109415889	ss250685511	T/C	A/G	2	127614061	UMD3.1	BovineHD0200037047-128_B_F_2255338694
BOVINEHD0200037048	MS Imputation	rs110675659	ss250685512	A/G	A/G	2	127617577	UMD3.1	BovineHD0200037048_dup-1_T_F_2253194999
BOVINEHD0200037049	MS Imputation	rs109344072	ss250685513	T/G	A/C	2	127621858	UMD3.1	BovineHD0200037049-128_T_R_2255352589
BOVINEHD0200037050	MS Imputation	rs109525422	ss250685514	T/C	A/G	2	127626236	UMD3.1	BovineHD0200037050-128_B_F_2255348977
BOVINEHD0200037051	MS Imputation	rs136370503	ss250685515	T/C	A/G	2	127632228	UMD3.1	BovineHD0200037051_dup-1_B_F_2253195002
BOVINEHD0200037052	MS Imputation	rs136802989	ss250685516	T/C	A/G	2	127633203	UMD3.1	BovineHD0200037052-128_B_F_2255336383
BOVINEHD0200037053	MS Imputation	rs109170927	ss250685517	T/C	A/G	2	127639447	UMD3.1	BovineHD0200037053-128_T_R_2255337924

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD0200037054	MS Imputation	rs110516533	ss250685518	A/C	A/C	2	127641390	UMD3.1	BovineHD0200037054-128_T_F_2255326432
BOVINEHD0200037055	MS Imputation	rs109948826	ss250685519	A/G	A/G	2	127642586	UMD3.1	BovineHD0200037055-128_T_F_2255349342
BOVINEHD0200037056	MS Imputation	rs137362331	ss250685520	T/C	A/G	2	127644712	UMD3.1	BovineHD0200037056-128_T_R_2255335978
BOVINEHD0200037057	MS Imputation	rs136014412	ss250685521	T/G	A/C	2	127645905	UMD3.1	BovineHD0200037057-128_B_F_2255343259
BOVINEHD0200037058	MS Imputation	rs133708684	ss250685522	A/G	A/G	2	127646623	UMD3.1	BovineHD0200037058-128_T_F_2255352486
BOVINEHD0200037059	MS Imputation	rs110902719	ss250685523	A/C	A/C	2	127648283	UMD3.1	BovineHD0200037059-1_T_F_1763824101
BOVINEHD0200037060	MS Imputation	rs136119351	ss250685524	T/C	A/G	2	127652248	UMD3.1	BovineHD0200037060-128_B_F_2255342243
BOVINEHD0200037061	MS Imputation	rs136958979	ss250685525	T/C	A/G	2	127652716	UMD3.1	BovineHD0200037061-1_B_F_1764037425
BOVINEHD0200037062	MS Imputation	rs135037003	ss250685526	T/C	A/G	2	127653392	UMD3.1	BovineHD0200037062-128_T_R_2255326278
BOVINEHD0200037063	MS Imputation	rs111002347	ss250685527	A/G	A/G	2	127653946	UMD3.1	BovineHD0200037063_dup-1_B_R_2253182799
BOVINEHD0200037065	MS Imputation	rs109943240	ss250685528	T/C	A/G	2	127655073	UMD3.1	BovineHD0200037065-128_T_R_2255336188
BOVINEHD0200037067	MS Imputation	rs135997564	ss250685529	A/G	A/G	2	127658951	UMD3.1	BovineHD0200037067_dup-1_B_R_2253195008
BOVINEHD0200037069	MS Imputation	rs110738854	ss250685530	A/G	A/G	2	127662390	UMD3.1	BovineHD0200037069-128_B_R_2255336831
BOVINEHD0200037070	MS Imputation	rs109437527	ss250685531	T/C	A/G	2	127664126	UMD3.1	BovineHD0200037070-128_B_F_2255341487
BOVINEHD0200037071	MS Imputation	rs135554653	ss250685532	T/G	A/C	2	127665879	UMD3.1	BovineHD0200037071_dup-1_T_R_2253182806
BOVINEHD0200037073	MS Imputation	rs133021517	ss250685533	T/C	A/G	2	127673633	UMD3.1	BovineHD0200037073-128_T_R_2255346344
BOVINEHD0200037074	MS Imputation	rs109544536	ss250685534	T/C	A/G	2	127677331	UMD3.1	BovineHD0200037074-128_T_R_2255352749

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD0200037076	MS Imputation	rs109722149	ss250685536	A/G	A/G	2	127683153	UMD3.1	BovineHD0200037076-1_T_F_1763824154
BOVINEHD0300010245	MS Imputation	rs43336736	ss250697930	A/C	A/C	3	32816926	UMD3.1	BovineHD0300010245-1_T_F_1763887220
BOVINEHD0300010246	MS Imputation	rs133809092	ss250697931	T/G	A/C	3	32820832	UMD3.1	BovineHD0300010246-1_B_F_1764090837
BOVINEHD0300010247	MS Imputation	rs43141150	ss250697932	T/C	A/G	3	32825671	UMD3.1	BovineHD0300010247-1_T_R_1763887223
BOVINEHD0300010248	MS Imputation	rs43141157	ss250697933	T/C	A/G	3	32833071	UMD3.1	BovineHD0300010248-1_T_R_1763887225
BOVINEHD0300010249	MS Imputation	rs43141160	ss250697934	A/G	A/G	3	32834811	UMD3.1	BovineHD0300010249-1_B_R_1764090840
BOVINEHD0300010250	MS Imputation	rs135406586	ss250697935	A/G	A/G	3	32849441	UMD3.1	BovineHD0300010250-1_T_F_1763887226
BOVINEHD0300010251	MS Imputation	rs43336214	ss250697936	T/C	A/G	3	32855858	UMD3.1	BovineHD0300010251-1_B_F_1764090841
BOVINEHD0300010252	MS Imputation	rs134178614	ss250697937	T/C	A/G	3	32860794	UMD3.1	BovineHD0300010252-1_T_R_1763887229
BOVINEHD0300010253	MS Imputation	rs43336222	ss250697938	A/G	A/G	3	32867340	UMD3.1	BovineHD0300010253_dup-1_B_R_2253182915
BOVINEHD0300010254	MS Imputation	rs133451567	ss250697939	T/C	A/G	3	32873828	UMD3.1	BovineHD0300010254_dup-1_T_R_2253182917
BOVINEHD0300010255	MS Imputation	rs43336229	ss250697940	A/G	A/G	3	32875568	UMD3.1	BovineHD0300010255-128_B_R_2255324572
BOVINEHD0300010256	MS Imputation	rs135427767	ss250697941	A/G	A/G	3	32878331	UMD3.1	BovineHD0300010256-128_B_R_2255339268
BOVINEHD0300010257	MS Imputation	rs133382740	ss250697942	T/C	A/G	3	32883278	UMD3.1	BovineHD0300010257-128_T_R_2255332575
BOVINEHD0300010258	MS Imputation	rs137314419	ss250697943	A/G	A/G	3	32884003	UMD3.1	BovineHD0300010258-1_T_F_1763887234
BOVINEHD0300010259	MS Imputation	rs136293829	ss250697944	T/C	A/G	3	32886079	UMD3.1	BovineHD0300010259-128_T_R_2255323930
BOVINEHD0300010260	MS Imputation	rs136734179	ss250697945	T/C	A/G	3	32888721	UMD3.1	BovineHD0300010260_dup-1_B_F_2253182926

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD0300010261	MS Imputation	rs135091459	ss250697946	T/G	A/C	3	32903925	UMD3.1	BovineHD0300010261-128_T_R_2255337247
BOVINEHD0300010262	MS Imputation	rs136483588	ss250697947	A/G	A/G	3	32906606	UMD3.1	BovineHD0300010262-128_T_F_2255347760
BOVINEHD0300010263	MS Imputation	rs134229036	ss250697948	A/G	A/G	3	32907274	UMD3.1	BovineHD0300010263-1_B_R_1764090850
BOVINEHD0300010264	MS Imputation	rs135523979	ss250697949	A/G	A/G	3	32912523	UMD3.1	BovineHD0300010264-128_T_F_2255331614
BOVINEHD0300010265	MS Imputation	rs136416571	ss250697950	T/C	A/G	3	32913275	UMD3.1	BovineHD0300010265-1_B_F_1764090851
BOVINEHD0300010266	MS Imputation	rs133784932	ss250697951	T/C	A/G	3	32914215	UMD3.1	BovineHD0300010266-1_T_R_1763887247
BOVINEHD0300010267	MS Imputation	rs137465784	ss250697952	T/G	A/C	3	32919266	UMD3.1	BovineHD0300010267-128_T_R_2255334731
BOVINEHD0300010268	MS Imputation	rs133118161	ss250697953	T/C	A/G	3	32924158	UMD3.1	BovineHD0300010268_dup-1_B_F_2253182933
BOVINEHD0300010269	MS Imputation	rs137050570	ss250697954	T/C	A/G	3	32929783	UMD3.1	BovineHD0300010269-1_B_F_1764090853
BOVINEHD0300010270	MS Imputation	rs135111359	ss250697955	A/G	A/G	3	32933798	UMD3.1	BovineHD0300010270-128_T_F_2255348525
BOVINEHD0300010272	MS Imputation	rs132872653	ss250697956	A/C	A/C	3	32938410	UMD3.1	BovineHD0300010272_dup-1_T_F_2253195111
BOVINEHD0300010273	MS Imputation	rs41621705	ss250697957	T/C	A/G	3	32946493	UMD3.1	BovineHD0300010273-1_T_R_1763887255
BOVINEHD0300010274	MS Imputation	rs135699765	ss250697958	T/C	A/G	3	32949187	UMD3.1	BovineHD0300010274-128_B_F_2255339145
BOVINEHD0300010275	MS Imputation	rs136749637	ss250697959	T/C	A/G	3	32954859	UMD3.1	BovineHD0300010275-128_T_R_2255343602
BOVINEHD0300010276	MS Imputation	rs134183474	ss250697960	T/C	A/G	3	32959407	UMD3.1	BovineHD0300010276-128_T_R_2255347048
BOVINEHD0300010277	MS Imputation	rs137619337	ss250697961	A/G	A/G	3	32966347	UMD3.1	BovineHD0300010277-128_T_F_2255347693
BOVINEHD0300010278	MS Imputation	rs133509602	ss250697962	A/G	A/G	3	32970551	UMD3.1	BovineHD0300010278-1_B_R_1764090862

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD0300010279	MS Imputation	rs134949503	ss250697963	A/G	A/G	3	32975171	UMD3.1	BovineHD0300010279-128_B_R_2255346737
BOVINEHD0300010280	MS Imputation	rs136433171	ss250697964	A/G	A/G	3	32980053	UMD3.1	BovineHD0300010280-128_T_F_2255330686
BOVINEHD0300010281	MS Imputation	rs133427941	ss250697965	T/C	A/G	3	32983621	UMD3.1	BovineHD0300010281-128_B_F_2255346203
BOVINEHD0300010282	MS Imputation	rs135326066	ss250697966	T/C	A/G	3	32986013	UMD3.1	BovineHD0300010282_dup-1_T_R_2253182948
BOVINEHD0300010283	MS Imputation	rs136260104	ss250697967	T/C	A/G	3	33000242	UMD3.1	BovineHD0300010283-1_T_R_1763887267
BOVINEHD0300010284	MS Imputation	rs136900042	ss250697968	A/G	A/G	3	33001118	UMD3.1	BovineHD0300010284-1_T_F_1763887268
BOVINEHD0300010285	MS Imputation	rs134609387	ss250697969	A/G	A/G	3	33001842	UMD3.1	BovineHD0300010285-1_T_F_1763887270
BOVINEHD0300010286	MS Imputation	rs137790089	ss250697970	T/C	A/G	3	33002390	UMD3.1	BovineHD0300010286-128_B_F_2255340907
BOVINEHD0300010287	MS Imputation	rs133896116	ss250697971	A/G	A/G	3	33003882	UMD3.1	BovineHD0300010287-1_B_R_1764090873
BOVINEHD0300010288	MS Imputation	rs134950376	ss250697972	A/C	A/C	3	33004750	UMD3.1	BovineHD0300010288-128_B_R_2255324984
BOVINEHD0300010289	MS Imputation	rs132734037	ss250697973	T/C	A/G	3	33005967	UMD3.1	BovineHD0300010289_dup-1_T_R_2253195119
BOVINEHD0300010290	MS Imputation	rs133736135	ss250697974	A/G	A/G	3	33007451	UMD3.1	BovineHD0300010290-128_B_R_2255332273
BOVINEHD0300010291	MS Imputation	rs135207191	ss250697975	A/G	A/G	3	33008170	UMD3.1	BovineHD0300010291-128_T_F_2255351306
BOVINEHD0300010292	MS Imputation	rs133116520	ss250697976	A/C	A/C	3	33010202	UMD3.1	BovineHD0300010292-128_B_R_2255334389
BOVINEHD0300010293	MS Imputation	rs137053141	ss250697977	T/C	A/G	3	33010864	UMD3.1	BovineHD0300010293-128_B_F_2255326494
BOVINEHD0300010294	MS Imputation	rs135601907	ss250697978	A/C	A/C	3	33011326	UMD3.1	BovineHD0300010294-128_B_R_2255348480
BOVINEHD0300010295	MS Imputation	rs136635712	ss250697979	T/C	A/G	3	33011788	UMD3.1	BovineHD0300010295_dup-1_B_F_2253182958

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD0300010296	MS Imputation	rs134766847	ss250697980	A/G	A/G	3	33013697	UMD3.1	BovineHD0300010296-128_B_R_2255335217
BOVINEHD0300010297	MS Imputation	rs136380168	ss250697981	A/C	A/C	3	33020647	UMD3.1	BovineHD0300010297_dup-1_B_R_2253182963
BOVINEHD0300010298	MS Imputation	rs133259496	ss250697982	A/C	A/C	3	33021516	UMD3.1	BovineHD0300010298_dup-1_B_R_2253182965
BOVINEHD0300010300	MS Imputation	rs135136643	ss250697983	T/C	A/G	3	33023316	UMD3.1	BovineHD0300010300-128_B_F_2255349771
BOVINEHD0300010301	MS Imputation	rs137618661	ss250697984	T/C	A/G	3	33026888	UMD3.1	BovineHD0300010301-128_T_R_2255329840
BOVINEHD0300010302	MS Imputation	rs133516224	ss250697985	A/C	A/C	3	33030685	UMD3.1	BovineHD0300010302-128_B_R_2255342701
BOVINEHD0300010303	MS Imputation	rs137203896	ss250697986	T/C	A/G	3	33035439	UMD3.1	BovineHD0300010303-128_T_R_2255335451
BOVINEHD0300010304	MS Imputation	rs43336198	ss250697987	A/G	A/G	3	33040069	UMD3.1	BovineHD0300010304_dup-1_B_R_2253182971
BOVINEHD0300010305	MS Imputation	rs133719642	ss250697988	A/C	A/C	3	33044527	UMD3.1	BovineHD0300010305-128_B_R_2255345633
BOVINEHD0300010306	MS Imputation	rs43336190	ss250697989	T/C	A/G	3	33049189	UMD3.1	BovineHD0300010306-1_B_F_1764090901
BOVINEHD0300010307	MS Imputation	rs43336151	ss250697990	A/G	A/G	3	33051872	UMD3.1	BovineHD0300010307-128_B_R_2255343020
BOVINEHD0300010308	MS Imputation	rs133602761	ss250697991	A/G	A/G	3	33053308	UMD3.1	BovineHD0300010308-1_B_R_1764090906
BOVINEHD0300010310	MS Imputation	rs43336159	ss250697992	A/C	A/C	3	33063934	UMD3.1	BovineHD0300010310-128_B_R_2255336793
BOVINEHD0300010312	MS Imputation	rs136630574	ss250697993	T/C	A/G	3	33074854	UMD3.1	BovineHD0300010312-128_T_R_2255335643
BOVINEHD0300010313	MS Imputation	rs43336174	ss250697994	T/G	A/C	3	33079010	UMD3.1	BovineHD0300010313_dup-1_T_R_2253182980
BOVINEHD0300010314	MS Imputation	rs43336177	ss250697995	T/C	A/G	3	33080182	UMD3.1	BovineHD0300010314-128_B_F_2255332521
BOVINEHD0300010316	MS Imputation	rs132742914	ss250697996	T/G	A/C	3	33082130	UMD3.1	BovineHD0300010316-1_B_F_1764090915

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD0300010317	MS Imputation	rs43336143	ss250697997	T/C	A/G	3	33084791	UMD3.1	BovineHD0300010317-1_T_R_1763887289
BOVINEHD0300010318	MS Imputation	rs43336141	ss250697998	A/C	A/C	3	33097366	UMD3.1	BovineHD0300010318-128_T_F_2255341445
BOVINEHD0300010319	MS Imputation	rs43336136	ss250697999	A/G	A/G	3	33099242	UMD3.1	BovineHD0300010319_dup-1_B_R_2253182988
BOVINEHD0300010320	MS Imputation	rs43336135	ss250698000	T/C	A/G	3	33103262	UMD3.1	BovineHD0300010320_dup-1_T_R_2253182990
BOVINEHD0300010321	MS Imputation	rs43336132	ss250698001	A/G	A/G	3	33103996	UMD3.1	BovineHD0300010321-128_T_F_2255339027
BOVINEHD0300010322	MS Imputation	rs110717564	ss250698002	T/G	A/C	3	33105065	UMD3.1	BovineHD0300010322-128_T_R_2255333065
BOVINEHD0300010323	MS Imputation	rs110181915	ss250698003	A/C	A/C	3	33114492	UMD3.1	BovineHD0300010323-128_B_R_2255349387
BOVINEHD0300010324	MS Imputation	rs43335516	ss250698004	T/C	A/G	3	33118153	UMD3.1	BovineHD0300010324-128_B_F_2255338181
BOVINEHD0300010325	MS Imputation	rs43335513	ss250698005	A/G	A/G	3	33119421	UMD3.1	BovineHD0300010325-128_T_F_2255342620
BOVINEHD0300010326	MS Imputation	rs43335512	ss250698006	T/G	A/C	3	33120567	UMD3.1	BovineHD0300010326-1_B_F_1764090923
BOVINEHD0300010327	MS Imputation	rs43335509	ss250698007	T/C	A/G	3	33124386	UMD3.1	BovineHD0300010327-128_B_F_2255348587
BOVINEHD0300010328	MS Imputation	rs133418149	ss250698008	A/G	A/G	3	33125697	UMD3.1	BovineHD0300010328_dup-1_B_R_2253183004
BOVINEHD0300010329	MS Imputation	rs137206035	ss250698009	T/G	A/C	3	33129311	UMD3.1	BovineHD0300010329-128_T_R_2255344655
BOVINEHD0300010330	MS Imputation	rs136033579	ss250698010	A/G	A/G	3	33134567	UMD3.1	BovineHD0300010330-128_B_R_2255335953
BOVINEHD0300010331	MS Imputation	rs43155819	ss250698011	A/G	A/G	3	33135815	UMD3.1	BovineHD0300010331-128_T_F_2255339717
BOVINEHD0300010332	MS Imputation	rs135213961	ss250698012	A/G	A/G	3	33138647	UMD3.1	BovineHD0300010332-128_T_F_2255338716
BOVINEHD0300010333	MS Imputation	rs136533275	ss250698013	T/C	A/G	3	33143878	UMD3.1	BovineHD0300010333-128_B_F_2255335086

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD0300010334	MS Imputation	rs43335499	ss250698014	A/G	A/G	3	33152467	UMD3.1	BovineHD0300010334-128_T_F_2255330252
BOVINEHD0300010335	MS Imputation	rs135705191	ss250698015	A/G	A/G	3	33157075	UMD3.1	BovineHD0300010335-1_B_R_1764090934
BOVINEHD0300010336	MS Imputation	rs132912649	ss250698016	A/G	A/G	3	33160944	UMD3.1	BovineHD0300010336-1_T_F_1763887308
BOVINEHD0300010337	MS Imputation	rs134385453	ss250698017	T/C	A/G	3	33164053	UMD3.1	BovineHD0300010337-128_B_F_2255343854
BOVINEHD0300010338	MS Imputation	rs137520426	ss250698018	T/G	A/C	3	33168941	UMD3.1	BovineHD0300010338-128_B_F_2255344650
BOVINEHD0300010340	MS Imputation	rs109382738	ss250698019	A/G	A/G	3	33173644	UMD3.1	BovineHD0300010340_dup-1_T_F_2253183017
BOVINEHD0300010341	MS Imputation	rs43335475	ss250698020	A/G	A/G	3	33177841	UMD3.1	BovineHD0300010341-1_T_F_1763887312
BOVINEHD0300010342	MS Imputation	rs43335480	ss250698021	A/G	A/G	3	33181390	UMD3.1	BovineHD0300010342-1_B_R_1764090942
BOVINEHD0300010344	MS Imputation	rs109100470	ss250698022	A/G	A/G	3	33194734	UMD3.1	BovineHD0300010344-1_B_R_1764090946
BOVINEHD0300010345	MS Imputation	rs109052312	ss250698023	A/G	A/G	3	33198895	UMD3.1	BovineHD0300010345_dup-1_T_F_2253183024
BOVINEHD0300010346	MS Imputation	rs135431887	ss250698024	T/C	A/G	3	33201497	UMD3.1	BovineHD0300010346-1_T_R_1763887317
BOVINEHD0300010348	MS Imputation	rs43335036	ss250698025	T/C	A/G	3	33208764	UMD3.1	BovineHD0300010348-1_T_R_1763887321
BOVINEHD0300010349	MS Imputation	rs43335032	ss250698026	T/C	A/G	3	33215429	UMD3.1	BovineHD0300010349-1_B_F_1764090947
BOVINEHD0300010350	MS Imputation	rs137831655	ss250698027	A/C	A/C	3	33218886	UMD3.1	BovineHD0300010350-1_B_R_1764090950
BOVINEHD0500016035	MS Imputation	rs137707102	ss250768226	A/G	A/G	5	56456193	UMD3.1	BovineHD0500016035_dup-1_T_F_2253183294
BOVINEHD0500016036	MS Imputation	rs133706727	ss250768227	A/G	A/G	5	56459525	UMD3.1	BovineHD0500016036-128_T_F_2255351513
BOVINEHD0500016037	MS Imputation	rs137452746	ss250768228	A/G	A/G	5	56462859	UMD3.1	BovineHD0500016037-128_T_F_2255352630

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD0500016038	MS Imputation	rs133011564	ss250768229	A/G	A/G	5	56467295	UMD3.1	BovineHD0500016038-128_B_R_2255325467
BOVINEHD0500016040	MS Imputation	rs137017835	ss250768230	T/G	A/C	5	56474948	UMD3.1	BovineHD0500016040-128_T_R_2255338388
BOVINEHD0500016041	MS Imputation	rs135015894	ss250768231	T/C	A/G	5	56479616	UMD3.1	BovineHD0500016041-128_T_R_2255341524
BOVINEHD0500016042	MS Imputation	rs132796363	ss250768232	T/C	A/G	5	56486256	UMD3.1	BovineHD0500016042-128_T_R_2255351209
BOVINEHD0500016043	MS Imputation	rs110680353	ss250768233	T/C	A/G	5	56491733	UMD3.1	BovineHD0500016043-1_B_F_1764308594
BOVINEHD0500016044	MS Imputation	rs135599262	ss250768234	A/G	A/G	5	56496391	UMD3.1	BovineHD0500016044_dup-1_T_F_2253183307
BOVINEHD0500016045	MS Imputation	rs136553412	ss250768235	T/C	A/G	5	56500702	UMD3.1	BovineHD0500016045-128_B_F_2255332740
BOVINEHD0500016046	MS Imputation	rs134078306	ss250768236	A/G	A/G	5	56504145	UMD3.1	BovineHD0500016046-128_B_R_2255348951
BOVINEHD0500016047	MS Imputation	rs137606680	ss250768237	A/G	A/G	5	56509511	UMD3.1	BovineHD0500016047_dup-1_B_R_2253183314
BOVINEHD0500016048	MS Imputation	rs133424563	ss250768238	A/G	A/G	5	56521249	UMD3.1	BovineHD0500016048-128_T_F_2255341935
BOVINEHD0500016050	MS Imputation	rs135459297	ss250768239	A/G	A/G	5	56533391	UMD3.1	BovineHD0500016050-128_B_R_2255344737
BOVINEHD0500016051	MS Imputation	rs136109999	ss250768240	A/G	A/G	5	56538498	UMD3.1	BovineHD0500016051-128_T_F_2255336734
BOVINEHD0500016052	MS Imputation	rs133384078	ss250768241	A/C	A/C	5	56541109	UMD3.1	BovineHD0500016052-1_B_R_1764308607
BOVINEHD0500016053	MS Imputation	rs109741508	ss250768242	A/C	A/C	5	56541588	UMD3.1	BovineHD0500016053-128_B_R_2255341171
BOVINEHD0500016054	MS Imputation	rs136245785	ss250768243	T/C	A/G	5	56547209	UMD3.1	BovineHD0500016054-1_B_F_1764308610
BOVINEHD0500016055	MS Imputation	rs110038969	ss250768244	A/G	A/G	5	56552682	UMD3.1	BovineHD0500016055_dup-1_B_R_2253183328
BOVINEHD0500016056	MS Imputation	rs109160006	ss250768245	T/C	A/G	5	56554290	UMD3.1	BovineHD0500016056-128_B_F_2255342955

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD0500016057	MS Imputation	rs137756650	ss250768246	T/C	A/G	5	56559557	UMD3.1	BovineHD0500016057-128_B_F_2255341308
BOVINEHD0500016058	MS Imputation	rs109823594	ss250768247	T/C	A/G	5	56565409	UMD3.1	BovineHD0500016058-128_T_R_2255326667
BOVINEHD0500016059	MS Imputation	rs109703343	ss250768248	A/C	A/C	5	56568187	UMD3.1	BovineHD0500016059-128_T_F_2255348645
BOVINEHD0500016060	MS Imputation	rs135718080	ss250768249	A/G	A/G	5	56570533	UMD3.1	BovineHD0500016060_dup-1_B_R_2253183336
BOVINEHD0500016061	MS Imputation	rs133644295	ss250768250	T/C	A/G	5	56578473	UMD3.1	BovineHD0500016061-128_B_F_2255338373
BOVINEHD0500016062	MS Imputation	rs135140806	ss250768251	T/C	A/G	5	56591788	UMD3.1	BovineHD0500016062-128_B_F_2255347655
BOVINEHD0500016063	MS Imputation	rs133008920	ss250768252	T/C	A/G	5	56595820	UMD3.1	BovineHD0500016063-128_B_F_2255323571
BOVINEHD0500016064	MS Imputation	rs109499641	ss250768253	A/G	A/G	5	56600610	UMD3.1	BovineHD0500016064-128_B_R_2255332391
BOVINEHD0500016065	MS Imputation	rs134966914	ss250768254	A/G	A/G	5	56606039	UMD3.1	BovineHD0500016065-128_T_F_2255335626
BOVINEHD0500016066	MS Imputation	rs110566038	ss250768255	A/G	A/G	5	56611536	UMD3.1	BovineHD0500016066-1_B_R_1764308627
BOVINEHD0500016067	MS Imputation	rs134716056	ss250768256	T/C	A/G	5	56615178	UMD3.1	BovineHD0500016067-128_T_R_2255334247
BOVINEHD0500016068	MS Imputation	rs110120540	ss250768257	A/G	A/G	5	56620234	UMD3.1	BovineHD0500016068-128_B_R_2255343299
BOVINEHD0500016069	MS Imputation	rs109848760	ss250768258	T/G	A/C	5	56621242	UMD3.1	BovineHD0500016069-128_T_R_2255345797
BOVINEHD0500016070	MS Imputation	rs109349987	ss250768259	T/C	A/G	5	56625841	UMD3.1	BovineHD0500016070_dup-1_B_F_2253195293
BOVINEHD0500016071	MS Imputation	rs110328356	ss250768260	T/C	A/G	5	56627286	UMD3.1	BovineHD0500016071-1_B_F_1764308632
BOVINEHD0500016072	MS Imputation	rs133434248	ss250768261	T/C	A/G	5	56631413	UMD3.1	BovineHD0500016072-128_B_F_2255349382
BOVINEHD0500016073	MS Imputation	rs137334484	ss250768262	T/C	A/G	5	56634735	UMD3.1	BovineHD0500016073-128_T_R_2255344616

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD0500016074	MS Imputation	rs135997859	ss250768263	T/C	A/G	5	56638429	UMD3.1	BovineHD0500016074-128_B_F_2255333210
BOVINEHD0500016075	MS Imputation	rs109498689	ss250768264	T/G	A/C	5	56645309	UMD3.1	BovineHD0500016075_dup-1_B_F_2253195295
BOVINEHD0500016077	MS Imputation	rs136037227	ss250768266	A/G	A/G	5	56667147	UMD3.1	BovineHD0500016077-128_T_F_2255331881
BOVINEHD0500016079	MS Imputation	rs41601768	ss250768267	T/C	A/G	5	56674426	UMD3.1	BovineHD0500016079-1_T_R_1764170488
BOVINEHD0500016080	MS Imputation	rs134957175	ss250768268	T/C	A/G	5	56679163	UMD3.1	BovineHD0500016080-128_T_R_2255351045
BOVINEHD0500016081	MS Imputation	rs137759327	ss250768269	A/G	A/G	5	56684875	UMD3.1	BovineHD0500016081-128_B_R_2255329610
BOVINEHD0500016083	MS Imputation	rs133838482	ss250768270	T/C	A/G	5	56698716	UMD3.1	BovineHD0500016083-128_T_R_2255346897
BOVINEHD0500016084	MS Imputation	rs109085181	ss250768271	T/G	A/C	5	56699301	UMD3.1	BovineHD0500016084-1_B_F_1764308644
BOVINEHD0500016086	MS Imputation	rs132636761	ss250768272	T/C	A/G	5	56709656	UMD3.1	BovineHD0500016086-128_T_R_2255336994
BOVINEHD0500016087	MS Imputation	rs134534331	ss250768273	A/G	A/G	5	56713476	UMD3.1	BovineHD0500016087-128_B_R_2255339734
BOVINEHD0500016088	MS Imputation	rs135771836	ss250768274	A/G	A/G	5	56716286	UMD3.1	BovineHD0500016088-128_B_R_2255350141
BOVINEHD0500016090	MS Imputation	rs110311254	ss250768276	T/G	A/C	5	56722571	UMD3.1	BovineHD0500016090-1_B_F_1764308652
BOVINEHD0500016091	MS Imputation	rs135498936	ss250768277	A/G	A/G	5	56727398	UMD3.1	BovineHD0500016091-128_T_F_2255344246
BOVINEHD0500016092	MS Imputation	rs136768917	ss250768278	A/G	A/G	5	56730007	UMD3.1	BovineHD0500016092-128_T_F_2255342520
BOVINEHD0500016095	MS Imputation	rs134228323	ss250768279	A/G	A/G	5	56741288	UMD3.1	BovineHD0500016095-128_T_F_2255330082
BOVINEHD0500016097	MS Imputation	rs133505796	ss250768281	A/G	A/G	5	56748447	UMD3.1	BovineHD0500016097-128_B_R_2255344715
BOVINEHD0500016098	MS Imputation	rs43441396	ss250768282	T/C	A/G	5	56752749	UMD3.1	BovineHD0500016098-1_T_R_1764170510

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD0500016099	MS Imputation	rs135460220	ss250768283	T/C	A/G	5	56757198	UMD3.1	BovineHD0500016099-128_T_R_2255330697
BOVINEHD0500016100	MS Imputation	rs109290785	ss250768284	T/C	A/G	5	56761565	UMD3.1	BovineHD0500016100-128_B_F_2255341061
BOVINEHD0500016101	MS Imputation	rs109861527	ss250768285	T/G	A/C	5	56764310	UMD3.1	BovineHD0500016101-128_B_F_2255338801
BOVINEHD0500016103	MS Imputation	rs109105250	ss250768287	A/G	A/G	5	56768708	UMD3.1	BovineHD0500016103-128_T_F_2255345952
BOVINEHD0500016104	MS Imputation	rs134719331	ss250768288	A/C	A/C	5	56775280	UMD3.1	BovineHD0500016104-128_T_F_2255351374
BOVINEHD0500016105	MS Imputation	rs136500832	ss250768289	A/G	A/G	5	56782100	UMD3.1	BovineHD0500016105_dup-1_B_R_2253183396
BOVINEHD0500016106	MS Imputation	rs109081340	ss250768290	T/C	A/G	5	56786421	UMD3.1	BovineHD0500016106_dup-1_B_F_2253195302
BOVINEHD0500016107	MS Imputation	rs109114100	ss250768291	A/C	A/C	5	56788149	UMD3.1	BovineHD0500016107-128_T_F_2255352470
BOVINEHD0500016108	MS Imputation	rs110960920	ss250768292	A/G	A/G	5	56792337	UMD3.1	BovineHD0500016108-128_B_R_2255349728
BOVINEHD0500016109	MS Imputation	rs109344449	ss250768293	T/C	A/G	5	56795623	UMD3.1	BovineHD0500016109-128_T_R_2255343043
BOVINEHD0500016110	MS Imputation	rs137486844	ss250768294	T/C	A/G	5	56801729	UMD3.1	BovineHD0500016110-128_B_F_2255352822
BOVINEHD0500016111	MS Imputation	rs110595711	ss250768295	T/C	A/G	5	56806423	UMD3.1	BovineHD0500016111_dup-1_B_F_2253183406
BOVINEHD0500016112	MS Imputation	rs137067226	ss250768296	A/C	A/C	5	56809677	UMD3.1	BovineHD0500016112-1_T_F_1764170532
BOVINEHD0500016113	MS Imputation	rs135681982	ss250768297	T/C	A/G	5	56816571	UMD3.1	BovineHD0500016113-128_B_F_2255348709
BOVINEHD0500016114	MS Imputation	rs132908718	ss250768298	T/G	A/C	5	56819950	UMD3.1	BovineHD0500016114-128_T_R_2255326300
BOVINEHD0500016115	MS Imputation	rs111032369	ss250768299	T/C	A/G	5	56824379	UMD3.1	BovineHD0500016115-128_T_R_2255342503
BOVINEHD0500016116	MS Imputation	rs109474583	ss250768300	A/G	A/G	5	56826187	UMD3.1	BovineHD0500016116-128_T_F_2255340766

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD0500016117	MS Imputation	rs109724232	ss250768301	T/C	A/G	5	56831462	UMD3.1	BovineHD0500016117_dup-1_B_F_2253195306
BOVINEHD0500016118	MS Imputation	rs110633639	ss250768302	T/C	A/G	5	56862044	UMD3.1	BovineHD0500016118-128_T_R_2255335878
BOVINEHD0500016119	MS Imputation	rs108988112	ss250768303	T/C	A/G	5	56867820	UMD3.1	BovineHD0500016119_dup-1_B_F_2253183418
BOVINEHD0500016120	MS Imputation	rs133552950	ss250768304	T/G	A/C	5	56872467	UMD3.1	BovineHD0500016120-1_B_F_1764308680
BOVINEHD0500016121	MS Imputation	rs137238660	ss250768305	A/C	A/C	5	56875884	UMD3.1	BovineHD0500016121-128_B_R_2255342657
BOVINEHD0500016122	MS Imputation	rs136449738	ss250768306	T/G	A/C	5	56879776	UMD3.1	BovineHD0500016122-1_B_F_1764308684
BOVINEHD0500016123	MS Imputation	rs134108242	ss250768307	T/C	A/G	5	56882477	UMD3.1	BovineHD0500016123-1_B_F_1764308686
BOVINEHD0500016124	MS Imputation	rs135407279	ss250768308	T/C	A/G	5	56885238	UMD3.1	BovineHD0500016124-1_B_F_1764308688
BOVINEHD0900002640	MS Imputation	rs133332874	ss250882009	T/G	A/C	9	10616694	UMD3.1	BovineHD0900002640-1_T_R_1764429622
BOVINEHD0900002641	MS Imputation	rs110896847	ss250882010	T/C	A/G	9	10621242	UMD3.1	BovineHD0900002641-1_T_R_1764429624
BOVINEHD0900002643	MS Imputation	rs135376632	ss250882011	A/C	A/C	9	10628675	UMD3.1	BovineHD0900002643-1_B_R_1764715340
BOVINEHD0900002644	MS Imputation	rs133490214	ss250882012	T/C	A/G	9	10629506	UMD3.1	BovineHD0900002644-1_T_R_1764429626
BOVINEHD0900002645	MS Imputation	rs110020227	ss250882013	T/C	A/G	9	10631790	UMD3.1	BovineHD0900002645-1_B_F_1764715344
BOVINEHD0900002646	MS Imputation	rs136170372	ss250882014	T/G	A/C	9	10633437	UMD3.1	BovineHD0900002646-1_B_F_1764715348
BOVINEHD0900002647	MS Imputation	rs136753213	ss250882015	A/G	A/G	9	10634507	UMD3.1	BovineHD0900002647-1_B_R_1764715355
BOVINEHD0900002649	MS Imputation	rs134497514	ss250882016	A/G	A/G	9	10639960	UMD3.1	BovineHD0900002649-1_B_R_1764715369
BOVINEHD0900002650	MS Imputation	rs110703673	ss250882017	A/C	A/C	9	10645475	UMD3.1	BovineHD0900002650-1_B_R_1764715371

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD0900002651	MS Imputation	rs134153808	ss250882018	T/C	A/G	9	10647152	UMD3.1	BovineHD0900002651-1_B_F_1764715372
BOVINEHD0900002652	MS Imputation	rs135749662	ss250882019	A/G	A/G	9	10652247	UMD3.1	BovineHD0900002652-128_T_F_2255352872
BOVINEHD0900002653	MS Imputation	rs136418773	ss250882020	A/G	A/G	9	10657487	UMD3.1	BovineHD0900002653-1_B_R_1764715376
BOVINEHD0900002655	MS Imputation	rs134364794	ss250882021	T/C	A/G	9	10670168	UMD3.1	BovineHD0900002655-128_B_F_2255336361
BOVINEHD0900002656	MS Imputation	rs109567425	ss250882022	T/C	A/G	9	10674646	UMD3.1	BovineHD0900002656-128_B_F_2255331371
BOVINEHD0900002657	MS Imputation	rs110599604	ss250882023	A/G	A/G	9	10677985	UMD3.1	BovineHD0900002657-1_B_R_1764715387
BOVINEHD0900002658	MS Imputation	rs137091533	ss250882024	T/C	A/G	9	10681280	UMD3.1	BovineHD0900002658-128_B_F_2255343490
BOVINEHD0900002659	MS Imputation	rs110903953	ss250882025	T/C	A/G	9	10687129	UMD3.1	BovineHD0900002659-1_B_F_1764715395
BOVINEHD0900002660	MS Imputation	rs110017571	ss250882026	T/C	A/G	9	10688043	UMD3.1	BovineHD0900002660-128_T_R_2255343959
BOVINEHD0900002661	MS Imputation	rs110853628	ss250882027	T/C	A/G	9	10690289	UMD3.1	BovineHD0900002661-1_T_R_1764429634
BOVINEHD0900002662	MS Imputation	rs135479650	ss250882028	T/C	A/G	9	10692373	UMD3.1	BovineHD0900002662-128_B_F_2255342063
BOVINEHD0900002663	MS Imputation	rs110738922	ss250882029	T/C	A/G	9	10695777	UMD3.1	BovineHD0900002663-128_T_R_2255329528
BOVINEHD0900002664	MS Imputation	rs133997478	ss250882030	T/C	A/G	9	10699485	UMD3.1	BovineHD0900002664-1_T_R_1764429638
BOVINEHD0900002665	MS Imputation	rs137655073	ss250882031	A/G	A/G	9	10705314	UMD3.1	BovineHD0900002665_dup-1_B_R_2253195493
BOVINEHD0900002667	MS Imputation	rs133390929	ss250882032	A/G	A/G	9	10711235	UMD3.1	BovineHD0900002667-128_B_R_2255323770
BOVINEHD0900002668	MS Imputation	rs110709113	ss250882033	T/C	A/G	9	10723371	UMD3.1	BovineHD0900002668-128_T_R_2255332432
BOVINEHD0900002670	MS Imputation	rs109523691	ss250882034	T/C	A/G	9	10734022	UMD3.1	BovineHD0900002670_dup-1_B_F_2253183835

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD0900002671	MS Imputation	rs109646811	ss250882035	T/C	A/G	9	10737017	UMD3.1	BovineHD0900002671-128_T_R_2255344023
BOVINEHD0900002672	MS Imputation	rs109022100	ss250882036	A/G	A/G	9	10738009	UMD3.1	BovineHD0900002672-128_B_R_2255341804
BOVINEHD0900002673	MS Imputation	rs111007506	ss250882037	A/G	A/G	9	10739968	UMD3.1	BovineHD0900002673_dup-1_B_R_2253195499
BOVINEHD0900002674	MS Imputation	rs109335443	ss250882038	A/G	A/G	9	10746130	UMD3.1	BovineHD0900002674-128_B_R_2255326603
BOVINEHD0900002675	MS Imputation	rs134514522	ss250882039	T/C	A/G	9	10746984	UMD3.1	BovineHD0900002675-1_B_F_1764715424
BOVINEHD0900002676	MS Imputation	rs110750729	ss250882040	A/G	A/G	9	10748367	UMD3.1	BovineHD0900002676-128_B_R_2255335433
BOVINEHD0900002677	MS Imputation	rs110028496	ss250882041	A/G	A/G	9	10751181	UMD3.1	BovineHD0900002677_dup-1_T_F_2253183843
BOVINEHD0900002678	MS Imputation	rs109359843	ss250882042	T/C	A/G	9	10756659	UMD3.1	BovineHD0900002678-128_B_F_2255323269
BOVINEHD0900002679	MS Imputation	rs132729403	ss250882043	T/C	A/G	9	10761338	UMD3.1	BovineHD0900002679-128_B_F_2255330552
BOVINEHD0900002680	MS Imputation	rs133995773	ss250882044	A/G	A/G	9	10772273	UMD3.1	BovineHD0900002680-128_B_R_2255344227
BOVINEHD0900002681	MS Imputation	rs135251266	ss250882045	A/G	A/G	9	10778984	UMD3.1	BovineHD0900002681-128_B_R_2255339327
BOVINEHD0900002682	MS Imputation	rs132878006	ss250882046	A/G	A/G	9	10782169	UMD3.1	BovineHD0900002682-128_T_F_2255347282
BOVINEHD0900002683	MS Imputation	rs111016555	ss250882047	T/C	A/G	9	10783460	UMD3.1	BovineHD0900002683-128_B_F_2255326560
BOVINEHD0900002684	MS Imputation	rs109242026	ss250882048	T/C	A/G	9	10785690	UMD3.1	BovineHD0900002684-128_T_R_2255344747
BOVINEHD0900002685	MS Imputation	rs136698404	ss250882049	T/C	A/G	9	10789115	UMD3.1	BovineHD0900002685-1_B_F_1764715450
BOVINEHD0900002686	MS Imputation	rs110229778	ss250882050	T/C	A/G	9	10793549	UMD3.1	BovineHD0900002686-1_T_R_1764429650
BOVINEHD0900002687	MS Imputation	rs136301247	ss250882051	A/G	A/G	9	10796656	UMD3.1	BovineHD0900002687-128_B_R_2255331856

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD0900002688	MS Imputation	rs133340104	ss250882052	T/C	A/G	9	10804265	UMD3.1	BovineHD0900002688_dup-1_B_F_2253183858
BOVINEHD0900002689	MS Imputation	rs134973709	ss250882053	A/G	A/G	9	10813745	UMD3.1	BovineHD0900002689_dup-1_B_R_2253183861
BOVINEHD0900002690	MS Imputation	rs109170166	ss250882054	A/G	A/G	9	10815700	UMD3.1	BovineHD0900002690-1_T_F_1764429651
BOVINEHD0900002691	MS Imputation	rs110900538	ss250882055	T/G	A/C	9	10816465	UMD3.1	BovineHD0900002691-128_B_F_2255330050
BOVINEHD0900002692	MS Imputation	rs137261622	ss250882056	A/G	A/G	9	10821706	UMD3.1	BovineHD0900002692-128_B_R_2255336234
BOVINEHD0900002694	MS Imputation	rs136017412	ss250882057	T/C	A/G	9	10832445	UMD3.1	BovineHD0900002694-128_B_F_2255333563
BOVINEHD0900002695	MS Imputation	rs109355074	ss250882058	A/C	A/C	9	10839055	UMD3.1	BovineHD0900002695-1_B_R_1764715471
BOVINEHD0900002696	MS Imputation	rs134776251	ss250882059	A/G	A/G	9	10844998	UMD3.1	BovineHD0900002696-128_B_R_2255338204
BOVINEHD0900002697	MS Imputation	rs135933803	ss250882060	T/C	A/G	9	10848885	UMD3.1	BovineHD0900002697-128_T_R_2255347836
BOVINEHD0900002699	MS Imputation	rs133647674	ss250882061	A/G	A/G	9	10866437	UMD3.1	BovineHD0900002699-128_T_F_2255350206
BOVINEHD0900002700	MS Imputation	rs110334415	ss250882062	T/G	A/C	9	10869684	UMD3.1	BovineHD0900002700-128_B_F_2255326092
BOVINEHD0900002701	MS Imputation	rs136686361	ss250882063	A/G	A/G	9	10870952	UMD3.1	BovineHD0900002701-128_B_R_2255322836
BOVINEHD0900002702	MS Imputation	rs133869947	ss250882064	A/C	A/C	9	10874883	UMD3.1	BovineHD0900002702-128_T_F_2255348053
BOVINEHD0900002703	MS Imputation	rs137437376	ss250882065	A/G	A/G	9	10878952	UMD3.1	BovineHD0900002703-128_B_R_2255350309
BOVINEHD0900002704	MS Imputation	rs132750352	ss250882066	A/G	A/G	9	10884116	UMD3.1	BovineHD0900002704-128_T_F_2255323370
BOVINEHD0900002705	MS Imputation	rs137039378	ss250882067	A/C	A/C	9	10888378	UMD3.1	BovineHD0900002705-128_T_F_2255342205
BOVINEHD0900002706	MS Imputation	rs136354513	ss250882068	T/C	A/G	9	10894290	UMD3.1	BovineHD0900002706_dup-1_B_F_2253195521

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD0900002707	MS Imputation	rs132956962	ss250882069	T/C	A/G	9	10897314	UMD3.1	BovineHD0900002707-128_T_R_2255329202
BOVINEHD0900002708	MS Imputation	rs134576189	ss250882070	T/C	A/G	9	10900951	UMD3.1	BovineHD0900002708-128_B_F_2255343424
BOVINEHD0900002709	MS Imputation	rs136146653	ss250882071	A/G	A/G	9	10907161	UMD3.1	BovineHD0900002709-1_T_F_1764429667
BOVINEHD0900002710	MS Imputation	rs136859217	ss250882072	A/C	A/C	9	10911404	UMD3.1	BovineHD0900002710-1_B_R_1764715488
BOVINEHD0900002711	MS Imputation	rs134771790	ss250882073	T/C	A/G	9	10917151	UMD3.1	BovineHD0900002711_dup-1_T_R_2253195527
BOVINEHD0900002712	MS Imputation	rs137602852	ss250882074	A/G	A/G	9	10921072	UMD3.1	BovineHD0900002712_dup-1_T_F_2253183877
BOVINEHD0900002713	MS Imputation	rs133243440	ss250882075	T/C	A/G	9	10925532	UMD3.1	BovineHD0900002713_dup-1_B_F_2253195528
BOVINEHD0900002714	MS Imputation	rs134451064	ss250882076	A/G	A/G	9	10932773	UMD3.1	BovineHD0900002714-128_B_R_2255340120
BOVINEHD0900002715	MS Imputation	rs136106025	ss250882077	T/C	A/G	9	10937255	UMD3.1	BovineHD0900002715-1_B_F_1764715499
BOVINEHD0900002716	MS Imputation	rs133344699	ss250882078	A/G	A/G	9	10942399	UMD3.1	BovineHD0900002716-128_T_F_2255350600
BOVINEHD0900002717	MS Imputation	rs134627552	ss250882079	A/G	A/G	9	10949242	UMD3.1	BovineHD0900002717_dup-1_T_F_2253183881
BOVINEHD0900002718	MS Imputation	rs136038969	ss250882080	T/C	A/G	9	10951017	UMD3.1	BovineHD0900002718_dup-1_T_R_2253195535
BOVINEHD0900002719	MS Imputation	rs137034346	ss250882081	T/C	A/G	9	10951876	UMD3.1	BovineHD0900002719-128_B_F_2255339045
BOVINEHD0900002720	MS Imputation	rs135305429	ss250882082	A/G	A/G	9	10953961	UMD3.1	BovineHD0900002720_dup-1_B_R_2253183886
BOVINEHD0900002721	MS Imputation	rs137780360	ss250882083	T/C	A/G	9	10954669	UMD3.1	BovineHD0900002721-128_T_R_2255324962
BOVINEHD0900002722	MS Imputation	rs133968566	ss250882084	A/G	A/G	9	10957129	UMD3.1	BovineHD0900002722-128_B_R_2255351674
BOVINEHD0900002723	MS Imputation	rs135568307	ss250882085	T/C	A/G	9	10958621	UMD3.1	BovineHD0900002723-128_B_F_2255345576

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD0900002724	MS Imputation	rs133127134	ss250882086	A/G	A/G	9	10960067	UMD3.1	BovineHD0900002724-128_B_R_2255327110
BOVINEHD0900002725	MS Imputation	rs134740425	ss250882087	T/C	A/G	9	10960800	UMD3.1	BovineHD0900002725-128_B_F_2255335388
BOVINEHD0900002726	MS Imputation	rs135761567	ss250882088	A/G	A/G	9	10962586	UMD3.1	BovineHD0900002726-128_B_R_2255339678
BOVINEHD0900002727	MS Imputation	rs132742814	ss250882089	A/G	A/G	9	10963272	UMD3.1	BovineHD0900002727_dup-1_T_F_2253195541
BOVINEHD0900002729	MS Imputation	rs137037113	ss250882090	T/C	A/G	9	10966583	UMD3.1	BovineHD0900002729-128_B_F_2255329125
BOVINEHD0900002730	MS Imputation	rs135877492	ss250882091	T/G	A/C	9	10970517	UMD3.1	BovineHD0900002730_dup-1_T_R_2253195543
BOVINEHD0900002731	MS Imputation	rs136804598	ss250882092	A/G	A/G	9	10974985	UMD3.1	BovineHD0900002731-128_B_R_2255334747
BOVINEHD0900002732	MS Imputation	rs134148587	ss250882093	A/G	A/G	9	10985099	UMD3.1	BovineHD0900002732-128_B_R_2255337010
BOVINEHD0900002733	MS Imputation	rs135378857	ss250882094	A/G	A/G	9	10994315	UMD3.1	BovineHD0900002733_dup-1_T_F_2253195546
BOVINEHD0900002734	MS Imputation	rs133517185	ss250882095	A/G	A/G	9	10999188	UMD3.1	BovineHD0900002734-128_T_F_2255332860
BOVINEHD0900002735	MS Imputation	rs134786462	ss250882096	A/G	A/G	9	11002615	UMD3.1	BovineHD0900002735_dup-1_T_F_2253183901
BOVINEHD0900002736	MS Imputation	rs137773198	ss250882097	T/G	A/C	9	11015939	UMD3.1	BovineHD0900002736-128_B_F_2255352403
BOVINEHD0900002737	MS Imputation	rs133272280	ss250882098	A/G	A/G	9	11019894	UMD3.1	BovineHD0900002737-128_T_F_2255335582
BOVINEHD0900002738	MS Imputation	rs137214081	ss250882099	A/G	A/G	9	11022138	UMD3.1	BovineHD0900002738-128_B_R_2255336749
BOVINEHD0900002739	MS Imputation	rs136258781	ss250882100	T/C	A/G	9	11023765	UMD3.1	BovineHD0900002739-128_B_F_2255350756
BOVINEHD0900002740	MS Imputation	rs134154878	ss250882101	T/C	A/G	9	11024991	UMD3.1	BovineHD0900002740-1_B_F_1764715562
BOVINEHD0900002741	MS Imputation	rs135753361	ss250882102	A/G	A/G	9	11030372	UMD3.1	BovineHD0900002741-1_B_R_1764715571

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD0900002742	MS Imputation	rs136416754	ss250882103	T/C	A/G	9	11030945	UMD3.1	BovineHD0900002742_dup-1_T_R_2253183914
BOVINEHD0900002743	MS Imputation	rs134349563	ss250882104	T/C	A/G	9	11031851	UMD3.1	BovineHD0900002743-1_T_R_1764429692
BOVINEHD0900002744	MS Imputation	rs135291144	ss250882105	T/G	A/C	9	11033410	UMD3.1	BovineHD0900002744-1_T_R_1764429694
BOVINEHD0900002745	MS Imputation	rs136634238	ss250882106	T/G	A/C	9	11034233	UMD3.1	BovineHD0900002745-1_B_F_1764715572
BOVINEHD0900002746	MS Imputation	rs134156838	ss250882107	T/C	A/G	9	11036208	UMD3.1	BovineHD0900002746-1_T_R_1764429696
BOVINEHD0900002747	MS Imputation	rs137380377	ss250882108	A/G	A/G	9	11042226	UMD3.1	BovineHD0900002747-1_B_R_1764715579
BOVINEHD0900002748	MS Imputation	rs110815614	ss250882109	A/G	A/G	9	11044071	UMD3.1	BovineHD0900002748-1_B_R_1764715583
BOVINEHD0900002749	MS Imputation	rs110161807	ss250882110	A/G	A/G	9	11045602	UMD3.1	BovineHD0900002749-1_B_R_1764715585
BOVINEHD0900002750	MS Imputation	rs110761538	ss250882111	T/C	A/G	9	11046449	UMD3.1	BovineHD0900002750-1_B_F_1764715587
BOVINEHD0900031009	MS Imputation	rs136882603	ss250908055	A/G	A/G	9	10642988	UMD3.1	BovineHD0900031009-1_B_R_1768834994
BOVINEHD0900031354	MS Imputation	rs133425696	ss250908209	A/G	A/G	9	10991125	UMD3.1	BovineHD0900031354-128_B_R_2255345893
BOVINEHD1500006271	MS Imputation	rs134092194	ss251039791	A/G	A/G	15	24120508	UMD3.1	BovineHD1500006271-128_T_F_2255344562
BOVINEHD1500006272	MS Imputation	rs135694620	ss251039792	T/G	A/C	15	24123042	UMD3.1	BovineHD1500006272-128_T_R_2255323667
BOVINEHD1500006274	MS Imputation	rs41628542	ss251039793	A/G	A/G	15	24126155	UMD3.1	BovineHD1500006274-128_T_F_2255342127
BOVINEHD1500006276	MS Imputation	rs109720995	ss251039795	A/G	A/G	15	24130426	UMD3.1	BovineHD1500006276_dup-1_T_F_2253184486
BOVINEHD1500006278	MS Imputation	rs110191010	ss251039796	T/C	A/G	15	24133594	UMD3.1	BovineHD1500006278-1_B_F_1763826414
BOVINEHD1500006279	MS Imputation	rs41746522	ss251039797	T/C	A/G	15	24135423	UMD3.1	BovineHD1500006279_dup-1_T_R_2253184491

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD1500006280	MS Imputation	rs109373416	ss251039798	T/C	A/G	15	24136054	UMD3.1	BovineHD1500006280-128_T_R_2255335655
BOVINEHD1500006283	MS Imputation	rs136516276	ss251039801	A/C	A/C	15	24147084	UMD3.1	BovineHD1500006283-128_B_R_2255325842
BOVINEHD1500006284	MS Imputation	rs134074770	ss251039802	A/G	A/G	15	24148958	UMD3.1	BovineHD1500006284-128_B_R_2255345943
BOVINEHD1500006285	MS Imputation	rs41746529	ss251039803	A/G	A/G	15	24150048	UMD3.1	BovineHD1500006285_dup-1_B_R_2253184497
BOVINEHD1500006286	MS Imputation	rs41746530	ss251039804	T/C	A/G	15	24150642	UMD3.1	BovineHD1500006286-128_B_F_2255343334
BOVINEHD1500006287	MS Imputation	rs133675777	ss251039805	T/C	A/G	15	24151933	UMD3.1	BovineHD1500006287-128_B_F_2255344242
BOVINEHD1500006288	MS Imputation	rs137510009	ss251039806	A/G	A/G	15	24152643	UMD3.1	BovineHD1500006288-1_T_F_1763659455
BOVINEHD1500006289	MS Imputation	rs110215288	ss251039807	T/G	A/C	15	24153110	UMD3.1	BovineHD1500006289-128_T_R_2255345749
BOVINEHD1500006290	MS Imputation	rs111013377	ss251039808	A/G	A/G	15	24156753	UMD3.1	BovineHD1500006290-128_B_R_2255342912
BOVINEHD1500006291	MS Imputation	rs41747334	ss251039809	T/C	A/G	15	24157816	UMD3.1	BovineHD1500006291-128_B_F_2255333904
BOVINEHD1500006292	MS Imputation	rs132982866	ss251039810	A/G	A/G	15	24160431	UMD3.1	BovineHD1500006292-128_B_R_2255342222
BOVINEHD1500006293	MS Imputation	rs41747341	ss251039811	A/G	A/G	15	24163656	UMD3.1	BovineHD1500006293-128_T_F_2255344292
BOVINEHD1500006294	MS Imputation	rs109240286	ss251039812	A/G	A/G	15	24164767	UMD3.1	BovineHD1500006294_dup-1_B_R_2253195789
BOVINEHD1500006295	MS Imputation	rs41568345	ss251039813	T/G	A/C	15	24168233	UMD3.1	BovineHD1500006295-128_B_F_2255322208
BOVINEHD1500006296	MS Imputation	rs134103401	ss251039814	A/G	A/G	15	24169662	UMD3.1	BovineHD1500006296-128_T_F_2255326148
BOVINEHD1500006298	MS Imputation	rs41747373	ss251039816	A/G	A/G	15	24171575	UMD3.1	BovineHD1500006298_dup-1_T_F_2253195792
BOVINEHD1500006299	MS Imputation	rs134516294	ss251039817	T/C	A/G	15	24172874	UMD3.1	BovineHD1500006299_dup-1_B_F_2253195794

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD1500006300	MS Imputation	rs41747346	ss251039818	T/C	A/G	15	24174776	UMD3.1	BovineHD1500006300-128_T_R_2255345193
BOVINEHD1500006301	MS Imputation	rs133671000	ss251039819	T/C	A/G	15	24175920	UMD3.1	BovineHD1500006301-128_B_F_2255339099
BOVINEHD1500006302	MS Imputation	rs110763178	ss251039820	T/C	A/G	15	24176510	UMD3.1	BovineHD1500006302-128_T_R_2255333151
BOVINEHD1500006303	MS Imputation	rs110056658	ss251039821	A/G	A/G	15	24177160	UMD3.1	BovineHD1500006303_dup-1_T_F_2253195800
BOVINEHD1500006304	MS Imputation	rs136781918	ss251039822	T/C	A/G	15	24185334	UMD3.1	BovineHD1500006304-128_B_F_2255349424
BOVINEHD1500006305	MS Imputation	rs41748979	ss251039823	A/G	A/G	15	24188638	UMD3.1	BovineHD1500006305_dup-1_B_R_2253184516
BOVINEHD1500006306	MS Imputation	rs41748966	ss251039824	T/C	A/G	15	24193037	UMD3.1	BovineHD1500006306-128_T_R_2255345767
BOVINEHD1500006308	MS Imputation	rs41748939	ss251039826	T/C	A/G	15	24197226	UMD3.1	BovineHD1500006308-128_T_R_2255348020
BOVINEHD1500006309	MS Imputation	rs41748933	ss251039827	A/G	A/G	15	24199765	UMD3.1	BovineHD1500006309-128_T_F_2255342801
BOVINEHD1500006310	MS Imputation	rs110595446	ss251039828	A/C	A/C	15	24200945	UMD3.1	BovineHD1500006310-128_B_R_2255338884
BOVINEHD1500006311	MS Imputation	rs137522970	ss251039829	T/G	A/C	15	24202199	UMD3.1	BovineHD1500006311-128_T_R_2255323246
BOVINEHD1500006312	MS Imputation	rs110288127	ss251039830	A/G	A/G	15	24204554	UMD3.1	BovineHD1500006312_dup-1_B_R_2253195810
BOVINEHD1500006313	MS Imputation	rs109625534	ss251039831	A/G	A/G	15	24208266	UMD3.1	BovineHD1500006313_dup-1_B_R_2253195811
BOVINEHD1500006314	MS Imputation	rs134909072	ss251039832	T/C	A/G	15	24209707	UMD3.1	BovineHD1500006314-128_B_F_2255334026
BOVINEHD1600007128	MS Imputation	rs136517487	ss251063468	T/C	A/G	16	25623468	UMD3.1	BovineHD1600007128-1_B_F_1763933112
BOVINEHD1600007129	MS Imputation	rs109667279	ss251063469	A/G	A/G	16	25630048	UMD3.1	BovineHD1600007129-1_T_F_1763742699
BOVINEHD1600007131	MS Imputation	rs109116813	ss251063471	A/G	A/G	16	25636497	UMD3.1	BovineHD1600007131-128_T_F_2255330226

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD1600007132	MS Imputation	rs109775006	ss251063472	T/C	A/G	16	25637902	UMD3.1	BovineHD1600007132_dup-1_B_F_2253184711
BOVINEHD1600007133	MS Imputation	rs110938546	ss251063473	T/C	A/G	16	25640184	UMD3.1	BovineHD1600007133_dup-1_T_R_2253184714
BOVINEHD1600007134	MS Imputation	rs132945441	ss251063474	T/C	A/G	16	25641378	UMD3.1	BovineHD1600007134_dup-1_T_R_2253184716
BOVINEHD1600007135	MS Imputation	rs109325261	ss251063475	T/G	A/C	16	25644519	UMD3.1	BovineHD1600007135_dup-1_T_R_2253184718
BOVINEHD1600007138	MS Imputation	rs136844123	ss251063477	T/C	A/G	16	25652277	UMD3.1	BovineHD1600007138-128_B_F_2255346874
BOVINEHD1600007139	MS Imputation	rs134269608	ss251063478	T/C	A/G	16	25653489	UMD3.1	BovineHD1600007139_dup-1_B_F_2253184719
BOVINEHD1600007140	MS Imputation	rs137628418	ss251063479	T/C	A/G	16	25654705	UMD3.1	BovineHD1600007140_dup-1_T_R_2253184722
BOVINEHD1600007141	MS Imputation	rs133318892	ss251063480	A/G	A/G	16	25657354	UMD3.1	BovineHD1600007141-128_T_F_2255333072
BOVINEHD1600007142	MS Imputation	rs135016616	ss251063481	T/C	A/G	16	25663584	UMD3.1	BovineHD1600007142-128_B_F_2255334701
BOVINEHD1600007144	MS Imputation	rs136543526	ss251063482	T/C	A/G	16	25673002	UMD3.1	BovineHD1600007144_dup-1_T_R_2253184727
BOVINEHD1600007145	MS Imputation	rs133499541	ss251063483	T/C	A/G	16	25675118	UMD3.1	BovineHD1600007145-128_T_R_2255326661
BOVINEHD1600007146	MS Imputation	rs135105652	ss251063484	A/G	A/G	16	25681640	UMD3.1	BovineHD1600007146-128_T_F_2255351820
BOVINEHD1600007147	MS Imputation	rs111029343	ss251063485	T/G	A/C	16	25689363	UMD3.1	BovineHD1600007147-1_T_R_1763742726
BOVINEHD1600007148	MS Imputation	rs136898086	ss251063486	A/G	A/G	16	25697142	UMD3.1	BovineHD1600007148-128_B_R_2255335619
BOVINEHD1600007149	MS Imputation	rs109233952	ss251063487	T/C	A/G	16	25704086	UMD3.1	BovineHD1600007149-128_B_F_2255337583
BOVINEHD1600007151	MS Imputation	rs109956889	ss251063489	T/C	A/G	16	25709923	UMD3.1	BovineHD1600007151_dup-1_B_F_2253184736
BOVINEHD1600007152	MS Imputation	rs134923080	ss251063490	A/G	A/G	16	25714850	UMD3.1	BovineHD1600007152-128_T_F_2255331075

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD1600007153	MS Imputation	rs110113451	ss251063491	T/C	A/G	16	25720393	UMD3.1	BovineHD1600007153-1_B_F_1763933132
BOVINEHD1600007154	MS Imputation	rs134255303	ss251063492	A/G	A/G	16	25721451	UMD3.1	BovineHD1600007154-128_T_F_2255338391
BOVINEHD1600007155	MS Imputation	rs135104103	ss251063493	T/C	A/G	16	25726664	UMD3.1	BovineHD1600007155-128_T_R_2255349651
BOVINEHD1600007157	MS Imputation	rs132804106	ss251063494	A/G	A/G	16	25733134	UMD3.1	BovineHD1600007157-128_T_F_2255347174
BOVINEHD1600007158	MS Imputation	rs137063198	ss251063495	T/C	A/G	16	25738442	UMD3.1	BovineHD1600007158_dup-1_T_R_2253184747
BOVINEHD1600007159	MS Imputation	rs135933089	ss251063496	T/C	A/G	16	25740150	UMD3.1	BovineHD1600007159-128_T_R_2255336725
BOVINEHD1600007161	MS Imputation	rs134540109	ss251063498	A/G	A/G	16	25743464	UMD3.1	BovineHD1600007161_dup-1_B_R_2253195903
BOVINEHD1600007162	MS Imputation	rs110746955	ss251063499	A/G	A/G	16	25748897	UMD3.1	BovineHD1600007162-128_B_R_2255333907
BOVINEHD1600007164	MS Imputation	rs109809565	ss251063501	T/C	A/G	16	25751418	UMD3.1	BovineHD1600007164_dup-1_T_R_2253184750
BOVINEHD1600007165	MS Imputation	rs137635984	ss251063502	T/C	A/G	16	25757917	UMD3.1	BovineHD1600007165-128_B_F_2255329483
BOVINEHD1600007166	MS Imputation	rs110021552	ss251063503	T/C	A/G	16	25759434	UMD3.1	BovineHD1600007166-128_B_F_2255350090
BOVINEHD1600007167	MS Imputation	rs109153705	ss251063504	A/G	A/G	16	25761333	UMD3.1	BovineHD1600007167-128_T_F_2255341172
BOVINEHD1600007169	MS Imputation	rs109147486	ss251063506	T/C	A/G	16	25766607	UMD3.1	BovineHD1600007169_dup-1_T_R_2253184756
BOVINEHD1600007170	MS Imputation	rs109592229	ss251063507	A/G	A/G	16	25767394	UMD3.1	BovineHD1600007170-128_T_F_2255344352
BOVINEHD1600007172	MS Imputation	rs110620324	ss251063508	A/G	A/G	16	25774613	UMD3.1	BovineHD1600007172-128_B_R_2255344349
BOVINEHD1600007174	MS Imputation	rs135298780	ss251063510	A/G	A/G	16	25786382	UMD3.1	BovineHD1600007174-128_T_F_2255324831
BOVINEHD1600007175	MS Imputation	rs136660559	ss251063511	T/C	A/G	16	25789054	UMD3.1	BovineHD1600007175-1_T_R_1763742754

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD1600007176	MS Imputation	rs110707198	ss251063512	T/G	A/C	16	25790832	UMD3.1	BovineHD1600007176-128_T_R_2255347171
BOVINEHD1600007179	MS Imputation	rs110290739	ss251063514	T/C	A/G	16	25803734	UMD3.1	BovineHD1600007179-128_T_R_2255329074
BOVINEHD1600007180	MS Imputation	rs134718118	ss251063515	T/G	A/C	16	25811895	UMD3.1	BovineHD1600007180_dup-1_B_F_2253184762
BOVINEHD1600007181	MS Imputation	rs109939496	ss251063516	A/G	A/G	16	25817365	UMD3.1	BovineHD1600007181-1_T_F_1763742765
BOVINEHD1600007182	MS Imputation	rs108971063	ss251063517	T/C	A/G	16	25820546	UMD3.1	BovineHD1600007182-128_T_R_2255327501
BOVINEHD1600007183	MS Imputation	rs134481746	ss251063518	A/G	A/G	16	25832066	UMD3.1	BovineHD1600007183_dup-1_T_F_2253184766
BOVINEHD1600007184	MS Imputation	rs109217033	ss251063519	A/G	A/G	16	25833566	UMD3.1	BovineHD1600007184-128_T_F_2255349657
BOVINEHD1600007185	MS Imputation	rs110813561	ss251063520	T/G	A/C	16	25841321	UMD3.1	BovineHD1600007185-1_T_R_1763742774
BOVINEHD1600007186	MS Imputation	rs110392295	ss251063521	T/G	A/C	16	25858827	UMD3.1	BovineHD1600007186-128_T_R_2255330826
BOVINEHD1600007187	MS Imputation	rs110916779	ss251063522	T/C	A/G	16	25860223	UMD3.1	BovineHD1600007187-128_B_F_2255348915
BOVINEHD1600007188	MS Imputation	rs109110054	ss251063523	A/G	A/G	16	25861658	UMD3.1	BovineHD1600007188-128_T_F_2255352730
BOVINEHD1600007190	MS Imputation	rs134851157	ss251063524	T/C	A/G	16	25869263	UMD3.1	BovineHD1600007190-128_T_R_2255346358
BOVINEHD1600007191	MS Imputation	rs136018295	ss251063525	T/G	A/C	16	25871274	UMD3.1	BovineHD1600007191_dup-1_B_F_2253184773
BOVINEHD1600007192	MS Imputation	rs109688860	ss251063526	A/G	A/G	16	25872262	UMD3.1	BovineHD1600007192-128_T_F_2255329657
BOVINEHD1600007193	MS Imputation	rs137235030	ss251063527	A/G	A/G	16	25874058	UMD3.1	BovineHD1600007193-128_T_F_2255343719
BOVINEHD1600007195	MS Imputation	rs136970144	ss251063529	A/G	A/G	16	25885965	UMD3.1	BovineHD1600007195-128_T_F_2255343176
BOVINEHD1600007196	MS Imputation	rs135074783	ss251063530	T/C	A/G	16	25889912	UMD3.1	BovineHD1600007196-128_T_R_2255343568

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD1600007198	MS Imputation	rs110379773	ss251063531	A/G	A/G	16	25899355	UMD3.1	BovineHD1600007198_dup-1_T_F_2253184775
BOVINEHD1600007199	MS Imputation	rs110131112	ss251063532	T/C	A/G	16	25899984	UMD3.1	BovineHD1600007199_dup-1_B_F_2253195932
BOVINEHD1600007200	MS Imputation	rs136034464	ss251063533	A/G	A/G	16	25906257	UMD3.1	BovineHD1600007200-128_B_R_2255334515
BOVINEHD1600007201	MS Imputation	rs110453882	ss251063534	A/G	A/G	16	25911857	UMD3.1	BovineHD1600007201-128_B_R_2255327278
BOVINEHD1600007202	MS Imputation	rs134512222	ss251063535	A/C	A/C	16	25916387	UMD3.1	BovineHD1600007202_dup-1_T_F_2253184781
BOVINEHD1600007203	MS Imputation	rs137370883	ss251063536	A/G	A/G	16	25917821	UMD3.1	BovineHD1600007203-1_B_R_1763933167
BOVINEHD1600007204	MS Imputation	rs109101012	ss251063537	A/C	A/C	16	25919398	UMD3.1	BovineHD1600007204-128_T_F_2255327494
BOVINEHD1600007205	MS Imputation	rs137134674	ss251063538	T/C	A/G	16	25923441	UMD3.1	BovineHD1600007205-128_T_R_2255327519
BOVINEHD1600007206	MS Imputation	rs135782233	ss251063539	A/G	A/G	16	25928979	UMD3.1	BovineHD1600007206-128_T_F_2255332822
BOVINEHD1600007207	MS Imputation	rs109589330	ss251063540	A/G	A/G	16	25933132	UMD3.1	BovineHD1600007207_dup-1_T_F_2253184786
BOVINEHD1600007208	MS Imputation	rs110827843	ss251063541	A/C	A/C	16	25934724	UMD3.1	BovineHD1600007208-1_B_R_1763933169
BOVINEHD1600007209	MS Imputation	rs109223063	ss251063542	T/C	A/G	16	25935379	UMD3.1	BovineHD1600007209_dup-1_T_R_2253184791
BOVINEHD1600007210	MS Imputation	rs110049216	ss251063543	A/G	A/G	16	25940046	UMD3.1	BovineHD1600007210-128_T_F_2255350772
BOVINEHD1600007212	MS Imputation	rs109717730	ss251063545	T/C	A/G	16	25941886	UMD3.1	BovineHD1600007212_dup-1_T_R_2253184794
BOVINEHD1600007213	MS Imputation	rs109944178	ss251063546	A/G	A/G	16	25943727	UMD3.1	BovineHD1600007213_dup-1_T_F_2253184795
BOVINEHD1600007214	MS Imputation	rs137352375	ss251063547	A/C	A/C	16	25944271	UMD3.1	BovineHD1600007214_dup-1_T_F_2253184797
BOVINEHD1600007215	MS Imputation	rs110561907	ss251063548	A/C	A/C	16	25949459	UMD3.1	BovineHD1600007215-128_B_R_2255341070

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD1600007216	MS Imputation	rs134054881	ss251063549	A/G	A/G	16	25950651	UMD3.1	BovineHD1600007216-128_B_R_2255330355
BOVINEHD1600007217	MS Imputation	rs135505966	ss251063550	T/C	A/G	16	25952513	UMD3.1	BovineHD1600007217-128_B_F_2255342149
BOVINEHD1600007218	MS Imputation	rs136516078	ss251063551	A/G	A/G	16	25953743	UMD3.1	BovineHD1600007218_dup-1_T_F_2253184800
BOVINEHD1600024420	MS Imputation	rs137468561	ss251079305	A/C	A/C	16	25827744	UMD3.1	BovineHD1600024420-128_B_R_2255333375
BOVINEHD1800019028	MS Imputation	rs109571293	ss251117080	A/G	A/G	18	65335388	UMD3.1	BovineHD1800019028-128_B_R_2255341335
BOVINEHD1800019029	MS Imputation	rs135532506	ss251117081	T/G	A/C	18	65337654	UMD3.1	BovineHD1800019029-128_B_F_2255345033
BOVINEHD1800019030	MS Imputation	rs133100682	ss251117082	A/G	A/G	18	65340963	UMD3.1	BovineHD1800019030-1_T_F_1763984154
BOVINEHD1800019032	MS Imputation	rs41901791	ss251117083	T/C	A/G	18	65349102	UMD3.1	BovineHD1800019032_dup-1_B_F_2253185041
BOVINEHD1800019033	MS Imputation	rs41901790	ss251117084	T/C	A/G	18	65350274	UMD3.1	BovineHD1800019033-128_B_F_2255333366
BOVINEHD1800019034	MS Imputation	rs133207977	ss251117085	T/C	A/G	18	65353446	UMD3.1	BovineHD1800019034-1_B_F_1764194595
BOVINEHD1800019037	MS Imputation	rs41901777	ss251117086	T/C	A/G	18	65356544	UMD3.1	BovineHD1800019037_dup-1_T_R_2253196080
BOVINEHD1800019038	MS Imputation	rs41901769	ss251117087	A/G	A/G	18	65360461	UMD3.1	BovineHD1800019038-128_B_R_2255331611
BOVINEHD1800019039	MS Imputation	rs41901761	ss251117088	T/C	A/G	18	65362801	UMD3.1	BovineHD1800019039-128_B_F_2255344514
BOVINEHD1800019040	MS Imputation	rs41901751	ss251117089	A/G	A/G	18	65365521	UMD3.1	BovineHD1800019040-128_T_F_2255331297
BOVINEHD1800019042	MS Imputation	rs41901741	ss251117091	A/C	A/C	18	65377613	UMD3.1	BovineHD1800019042-128_T_F_2255325444
BOVINEHD1800019043	MS Imputation	rs41901228	ss251117092	A/G	A/G	18	65379641	UMD3.1	BovineHD1800019043-128_B_R_2255340832
BOVINEHD1800019044	MS Imputation	rs41901731	ss251117093	A/C	A/C	18	65384131	UMD3.1	BovineHD1800019044-1_T_F_1763984167

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD1800019045	MS Imputation	rs41901733	ss251117094	A/G	A/G	18	65387030	UMD3.1	BovineHD1800019045-128_T_F_2255347607
BOVINEHD1800019046	MS Imputation	rs110108778	ss251117095	T/C	A/G	18	65388052	UMD3.1	BovineHD1800019046-128_B_F_2255329437
BOVINEHD1800019047	MS Imputation	rs41901735	ss251117096	T/C	A/G	18	65388866	UMD3.1	BovineHD1800019047-128_B_F_2255351964
BOVINEHD1800019050	MS Imputation	rs110732730	ss251117099	T/C	A/G	18	65403345	UMD3.1	BovineHD1800019050-128_B_F_2255324547
BOVINEHD1800019051	MS Imputation	rs109295604	ss251117100	A/G	A/G	18	65405023	UMD3.1	BovineHD1800019051_dup-1_B_R_2253185059
BOVINEHD1800019052	MS Imputation	rs41901226	ss251117101	A/C	A/C	18	65406943	UMD3.1	BovineHD1800019052-128_T_F_2255330413
BOVINEHD1800019053	MS Imputation	rs136626911	ss251117102	T/C	A/G	18	65414412	UMD3.1	BovineHD1800019053-128_B_F_2255324057
BOVINEHD1800019054	MS Imputation	rs42927527	ss251117103	A/G	A/G	18	65419972	UMD3.1	BovineHD1800019054-128_T_F_2255342949
BOVINEHD1800019055	MS Imputation	rs42927528	ss251117104	T/G	A/C	18	65423598	UMD3.1	BovineHD1800019055-1_B_F_1764194617
BOVINEHD1800019056	MS Imputation	rs132984692	ss251117105	A/G	A/G	18	65426753	UMD3.1	BovineHD1800019056-128_T_F_2255323394
BOVINEHD1800019057	MS Imputation	rs42928432	ss251117106	A/C	A/C	18	65432619	UMD3.1	BovineHD1800019057_dup-1_B_R_2253185066
BOVINEHD1800019058	MS Imputation	rs42928435	ss251117107	T/C	A/G	18	65433421	UMD3.1	BovineHD1800019058-1_B_F_1764194621
BOVINEHD1800019059	MS Imputation	rs110065138	ss251117108	T/C	A/G	18	65438566	UMD3.1	BovineHD1800019059-128_T_R_2255324342
BOVINEHD1800019060	MS Imputation	rs110481662	ss251117109	A/G	A/G	18	65451004	UMD3.1	BovineHD1800019060-128_B_R_2255346769
BOVINEHD1800019061	MS Imputation	rs110606449	ss251117110	T/C	A/G	18	65454422	UMD3.1	BovineHD1800019061-1_B_F_1764194625
BOVINEHD1800019062	MS Imputation	rs109465532	ss251117111	T/C	A/G	18	65455233	UMD3.1	BovineHD1800019062-128_B_F_2255326072
BOVINEHD1800019063	MS Imputation	rs135099199	ss251117112	T/C	A/G	18	65456096	UMD3.1	BovineHD1800019063_dup-1_B_F_2253185072

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD1800019064	MS Imputation	rs136405729	ss251117113	T/C	A/G	18	65457770	UMD3.1	BovineHD1800019064-128_T_R_2255346574
BOVINEHD1800019065	MS Imputation	rs134304852	ss251117114	A/G	A/G	18	65460377	UMD3.1	BovineHD1800019065-1_T_F_1763984183
BOVINEHD1800019066	MS Imputation	rs135302064	ss251117115	T/C	A/G	18	65463329	UMD3.1	BovineHD1800019066-1_B_F_1764194631
BOVINEHD1800019067	MS Imputation	rs137763165	ss251117116	T/G	A/C	18	65473071	UMD3.1	BovineHD1800019067-128_B_F_2255331309
BOVINEHD1800019068	MS Imputation	rs110530634	ss251117117	T/C	A/G	18	65476103	UMD3.1	BovineHD1800019068-1_B_F_1764194635
BOVINEHD1800019069	MS Imputation	rs137366212	ss251117118	A/G	A/G	18	65486326	UMD3.1	BovineHD1800019069-128_B_R_2255344097
BOVINEHD1800019896	MS Imputation	rs134530562	ss251117747	T/C	A/G	18	65345596	UMD3.1	BovineHD1800019896-128_T_R_2255336534
BOVINEHD1800019897	MS Imputation	rs136306123	ss251117748	T/G	A/C	18	65429283	UMD3.1	BovineHD1800019897-1_T_R_1773445433
BOVINEHD1900015968	MS Imputation	rs41927654	ss251132201	A/G	A/G	19	56499004	UMD3.1	BovineHD1900015968-1_B_R_1764243470
BOVINEHD1900015969	MS Imputation	rs41927647	ss251132202	T/G	A/C	19	56500023	UMD3.1	BovineHD1900015969-1_T_R_1764048661
BOVINEHD1900015970	MS Imputation	rs41927637	ss251132203	A/G	A/G	19	56502242	UMD3.1	BovineHD1900015970-1_B_R_1764243472
BOVINEHD1900015972	MS Imputation	rs41926923	ss251132205	A/G	A/G	19	56510205	UMD3.1	BovineHD1900015972_dup-1_B_R_2253196155
BOVINEHD1900015973	MS Imputation	rs41926919	ss251132206	A/G	A/G	19	56516493	UMD3.1	BovineHD1900015973-1_B_R_1764243474
BOVINEHD1900015983	MS Imputation	rs41924743	ss251132215	A/G	A/G	19	56537361	UMD3.1	BovineHD1900015983-128_T_F_2255346810
BOVINEHD1900015985	MS Imputation	rs109741095	ss251132217	A/G	A/G	19	56540246	UMD3.1	BovineHD1900015985_dup-1_T_F_2253185223
BOVINEHD1900015986	MS Imputation	rs135909315	ss251132218	T/C	A/G	19	56544394	UMD3.1	BovineHD1900015986_dup-1_B_F_2253196160
BOVINEHD1900015987	MS Imputation	rs136819082	ss251132219	A/G	A/G	19	56545123	UMD3.1	BovineHD1900015987-128_B_R_2255336915

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD1900015988	MS Imputation	rs41924783	ss251132220	T/C	A/G	19	56545652	UMD3.1	BovineHD1900015988-128_T_R_2255327444
BOVINEHD1900015989	MS Imputation	rs109463580	ss251132221	T/C	A/G	19	56551168	UMD3.1	BovineHD1900015989_dup-1_B_F_2253185229
BOVINEHD1900015990	MS Imputation	rs41924788	ss251132222	A/G	A/G	19	56552581	UMD3.1	BovineHD1900015990-128_B_R_2255341153
BOVINEHD1900015991	MS Imputation	rs135218864	ss251132223	T/C	A/G	19	56554454	UMD3.1	BovineHD1900015991-1_B_F_1764243491
BOVINEHD1900015993	MS Imputation	rs137804276	ss251132224	A/C	A/C	19	56555839	UMD3.1	BovineHD1900015993-128_B_R_2255342694
BOVINEHD1900015994	MS Imputation	rs133791238	ss251132225	A/G	A/G	19	56556421	UMD3.1	BovineHD1900015994-128_B_R_2255342705
BOVINEHD1900015995	MS Imputation	rs109323354	ss251132226	T/C	A/G	19	56559004	UMD3.1	BovineHD1900015995-128_B_F_2255351529
BOVINEHD1900015996	MS Imputation	rs109969696	ss251132227	A/G	A/G	19	56559529	UMD3.1	BovineHD1900015996-128_B_R_2255338800
BOVINEHD1900015997	MS Imputation	rs41924796	ss251132228	T/C	A/G	19	56560675	UMD3.1	BovineHD1900015997_dup-1_B_F_2253196166
BOVINEHD1900015998	MS Imputation	rs135111361	ss251132229	A/G	A/G	19	56564441	UMD3.1	BovineHD1900015998-128_B_R_2255337774
BOVINEHD1900015999	MS Imputation	rs132650784	ss251132230	T/C	A/G	19	56569168	UMD3.1	BovineHD1900015999-128_B_F_2255337787
BOVINEHD1900016000	MS Imputation	rs110402997	ss251132231	T/C	A/G	19	56577107	UMD3.1	BovineHD1900016000-128_B_F_2255347673
BOVINEHD1900016001	MS Imputation	rs135431265	ss251132232	A/G	A/G	19	56584509	UMD3.1	BovineHD1900016001-128_T_F_2255339809
BOVINEHD1900016002	MS Imputation	rs110242945	ss251132233	A/G	A/G	19	56594816	UMD3.1	BovineHD1900016002-128_B_R_2255336084
BOVINEHD1900016003	MS Imputation	rs134189730	ss251132234	T/C	A/G	19	56599101	UMD3.1	BovineHD1900016003-128_T_R_2255340422
BOVINEHD1900016004	MS Imputation	rs41924810	ss251132235	A/G	A/G	19	56602183	UMD3.1	BovineHD1900016004-128_T_F_2255336657
BOVINEHD1900016005	MS Imputation	rs133472506	ss251132236	A/G	A/G	19	56606767	UMD3.1	BovineHD1900016005_dup-1_B_R_2253185254

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD1900016007	MS Imputation	rs136236572	ss251132238	T/C	A/G	19	56616269	UMD3.1	BovineHD1900016007-128_B_F_2255352790
BOVINEHD1900016008	MS Imputation	rs133415793	ss251132239	T/C	A/G	19	56616856	UMD3.1	BovineHD1900016008_dup-1_B_F_2253196170
BOVINEHD1900016009	MS Imputation	rs109204992	ss251132240	T/C	A/G	19	56619165	UMD3.1	BovineHD1900016009-1_T_R_1764048697
BOVINEHD1900016010	MS Imputation	rs136291485	ss251132241	T/C	A/G	19	56621838	UMD3.1	BovineHD1900016010-128_T_R_2255349528
BOVINEHD1900016011	MS Imputation	rs110380016	ss251132242	T/C	A/G	19	56622728	UMD3.1	BovineHD1900016011_dup-1_B_F_2253196172
BOVINEHD1900016012	MS Imputation	rs134589272	ss251132243	T/C	A/G	19	56624163	UMD3.1	BovineHD1900016012-128_T_R_2255348040
BOVINEHD1900016013	MS Imputation	rs109061029	ss251132244	A/C	A/C	19	56628540	UMD3.1	BovineHD1900016013-1_B_R_1764243522
BOVINEHD1900016015	MS Imputation	rs133930824	ss251132245	A/G	A/G	19	56638120	UMD3.1	BovineHD1900016015-128_B_R_2255329161
BOVINEHD1900016016	MS Imputation	rs110491329	ss251132246	A/G	A/G	19	56641456	UMD3.1	BovineHD1900016016-128_B_R_2255335331
BOVINEHD1900016017	MS Imputation	rs136012537	ss251132247	A/G	A/G	19	56646757	UMD3.1	BovineHD1900016017_dup-1_T_F_2253185262
BOVINEHD1900016019	MS Imputation	rs41924825	ss251132248	T/C	A/G	19	56649409	UMD3.1	BovineHD1900016019-128_T_R_2255343264
BOVINEHD1900016020	MS Imputation	rs110350560	ss251132249	T/G	A/C	19	56650948	UMD3.1	BovineHD1900016020_dup-1_T_R_2253185264
BOVINEHD1900016021	MS Imputation	rs133041433	ss251132250	T/C	A/G	19	56652544	UMD3.1	BovineHD1900016021-128_B_F_2255343597
BOVINEHD1900016022	MS Imputation	rs137121160	ss251132251	T/C	A/G	19	56654080	UMD3.1	BovineHD1900016022-128_B_F_2255333102
BOVINEHD1900016023	MS Imputation	rs135070203	ss251132252	A/G	A/G	19	56657499	UMD3.1	BovineHD1900016023-128_T_F_2255348809
BOVINEHD1900016025	MS Imputation	rs109780222	ss251132254	A/G	A/G	19	56668187	UMD3.1	BovineHD1900016025-128_B_R_2255349403
BOVINEHD1900016026	MS Imputation	rs41925541	ss251132255	A/G	A/G	19	56670683	UMD3.1	BovineHD1900016026-1_B_R_1764243536

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD1900016027	MS Imputation	rs41925544	ss251132256	A/G	A/G	19	56673555	UMD3.1	BovineHD1900016027-128_B_R_2255341528
BOVINEHD1900016028	MS Imputation	rs41925550	ss251132257	A/G	A/G	19	56675426	UMD3.1	BovineHD1900016028-128_B_R_2255333187
BOVINEHD1900016029	MS Imputation	rs41925569	ss251132258	A/C	A/C	19	56677858	UMD3.1	BovineHD1900016029-128_T_F_2255337442
BOVINEHD1900016030	MS Imputation	rs41925575	ss251132259	A/G	A/G	19	56680137	UMD3.1	BovineHD1900016030-128_B_R_2255334868
BOVINEHD1900016031	MS Imputation	rs41925588	ss251132260	A/G	A/G	19	56693314	UMD3.1	BovineHD1900016031-128_B_R_2255328802
BOVINEHD1900016032	MS Imputation	rs41925592	ss251132261	A/G	A/G	19	56696905	UMD3.1	BovineHD1900016032-128_T_F_2255344042
BOVINEHD1900016034	MS Imputation	rs133243754	ss251132262	T/G	A/C	19	56699078	UMD3.1	BovineHD1900016034-128_T_R_2255325679
BOVINEHD1900016035	MS Imputation	rs41925605	ss251132263	T/G	A/C	19	56704546	UMD3.1	BovineHD1900016035-128_T_R_2255326113
BOVINEHD1900016036	MS Imputation	rs41925612	ss251132264	T/C	A/G	19	56707211	UMD3.1	BovineHD1900016036-128_T_R_2255349209
BOVINEHD1900016037	MS Imputation	rs133774222	ss251132265	T/C	A/G	19	56712050	UMD3.1	BovineHD1900016037-128_B_F_2255344418
BOVINEHD1900016038	MS Imputation	rs41926431	ss251132266	T/C	A/G	19	56718988	UMD3.1	BovineHD1900016038-128_T_R_2255323966
BOVINEHD1900016039	MS Imputation	rs41926443	ss251132267	A/C	A/C	19	56720693	UMD3.1	BovineHD1900016039-128_B_R_2255333335
BOVINEHD1900016040	MS Imputation	rs41926451	ss251132268	T/C	A/G	19	56722216	UMD3.1	BovineHD1900016040_dup-1_B_F_2253185290
BOVINEHD1900016041	MS Imputation	rs137512794	ss251132269	T/C	A/G	19	56728310	UMD3.1	BovineHD1900016041-128_B_F_2255326132
BOVINEHD1900016042	MS Imputation	rs41926502	ss251132270	T/C	A/G	19	56731189	UMD3.1	BovineHD1900016042-128_B_F_2255338134
BOVINEHD1900016043	MS Imputation	rs41926512	ss251132271	A/G	A/G	19	56736078	UMD3.1	BovineHD1900016043-1_T_F_1764048728
BOVINEHD1900016045	MS Imputation	rs110217258	ss251132273	T/C	A/G	19	56737905	UMD3.1	BovineHD1900016045_dup-1_B_F_2253185294

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD1900016046	MS Imputation	rs41926516	ss251132274	A/G	A/G	19	56738932	UMD3.1	BovineHD1900016046-128_B_R_2255352733
BOVINEHD1900016047	MS Imputation	rs109155199	ss251132275	A/C	A/C	19	56740385	UMD3.1	BovineHD1900016047-128_B_R_2255347570
BOVINEHD1900016048	MS Imputation	rs110653389	ss251132276	T/C	A/G	19	56746656	UMD3.1	BovineHD1900016048-128_B_F_2255352750
BOVINEHD1900016049	MS Imputation	rs109543827	ss251132277	A/G	A/G	19	56748120	UMD3.1	BovineHD1900016049-128_B_R_2255322438
BOVINEHD1900016050	MS Imputation	rs109392541	ss251132278	A/G	A/G	19	56749358	UMD3.1	BovineHD1900016050-128_B_R_2255325299
BOVINEHD1900016051	MS Imputation	rs41926526	ss251132279	T/C	A/G	19	56750524	UMD3.1	BovineHD1900016051_dup-1_T_R_2253196200
BOVINEHD1900016052	MS Imputation	rs41926528	ss251132280	A/G	A/G	19	56753187	UMD3.1	BovineHD1900016052-128_B_R_2255342098
BOVINEHD1900016053	MS Imputation	rs41927244	ss251132281	A/G	A/G	19	56774283	UMD3.1	BovineHD1900016053-128_B_R_2255345968
BOVINEHD1900016054	MS Imputation	rs110534949	ss251132282	T/C	A/G	19	56779692	UMD3.1	BovineHD1900016054-128_T_R_2255343040
BOVINEHD1900016055	MS Imputation	rs137294246	ss251132283	A/G	A/G	19	56782903	UMD3.1	BovineHD1900016055-128_T_F_2255350020
BOVINEHD2000006601	MS Imputation	rs109304022	ss251141128	T/C	A/G	20	21959754	UMD3.1	BovineHD2000006601-1_T_R_1764079658
BOVINEHD2000006602	MS Imputation	rs109115700	ss251141129	A/G	A/G	20	21963291	UMD3.1	BovineHD2000006602-1_T_F_1764079659
BOVINEHD2000006603	MS Imputation	rs109779242	ss251141130	A/G	A/G	20	21964412	UMD3.1	BovineHD2000006603-1_T_F_1764079661
BOVINEHD2000006605	MS Imputation	rs137715408	ss251141132	A/G	A/G	20	21980906	UMD3.1	BovineHD2000006605-1_T_F_1764079663
BOVINEHD2000006606	MS Imputation	rs109847343	ss251141133	T/G	A/C	20	21989284	UMD3.1	BovineHD2000006606-1_B_F_1764282768
BOVINEHD2000006607	MS Imputation	rs137459627	ss251141134	T/G	A/C	20	21992249	UMD3.1	BovineHD2000006607-1_B_F_1764282800
BOVINEHD2000006608	MS Imputation	rs133048140	ss251141135	T/C	A/G	20	22006676	UMD3.1	BovineHD2000006608-1_B_F_1764282971

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD2000006609	MS Imputation	rs133544402	ss251141136	A/G	A/G	20	22011007	UMD3.1	BovineHD2000006609-1_B_R_1764283008
BOVINEHD2000006610	MS Imputation	rs109821027	ss251141137	A/G	A/G	20	22016148	UMD3.1	BovineHD2000006610_dup-1_T_F_2253185420
BOVINEHD2000006611	MS Imputation	rs109814189	ss251141138	A/G	A/G	20	22021608	UMD3.1	BovineHD2000006611-1_T_F_1764079667
BOVINEHD2000006612	MS Imputation	rs109856107	ss251141139	T/G	A/C	20	22025013	UMD3.1	BovineHD2000006612-1_B_F_1764283024
BOVINEHD2000006613	MS Imputation	rs135915865	ss251141140	T/C	A/G	20	22034154	UMD3.1	BovineHD2000006613-1_T_R_1764079670
BOVINEHD2000006614	MS Imputation	rs136566031	ss251141141	T/C	A/G	20	22047458	UMD3.1	BovineHD2000006614-1_T_R_1764079672
BOVINEHD2000006615	MS Imputation	rs134158508	ss251141142	T/C	A/G	20	22052308	UMD3.1	BovineHD2000006615-1_T_R_1764079674
BOVINEHD2000006616	MS Imputation	rs137615651	ss251141143	T/C	A/G	20	22058347	UMD3.1	BovineHD2000006616-1_T_R_1764079676
BOVINEHD2000006617	MS Imputation	rs133622149	ss251141144	A/G	A/G	20	22065122	UMD3.1	BovineHD2000006617_dup-1_B_R_2253196247
BOVINEHD2000006618	MS Imputation	rs135485758	ss251141145	A/C	A/C	20	22074012	UMD3.1	BovineHD2000006618_dup-1_B_R_2253196249
BOVINEHD2000006619	MS Imputation	rs136168922	ss251141146	T/C	A/G	20	22077905	UMD3.1	BovineHD2000006619_dup-1_T_R_2253196251
BOVINEHD2000006620	MS Imputation	rs133413894	ss251141147	A/C	A/C	20	22081253	UMD3.1	BovineHD2000006620-1_T_F_1764079679
BOVINEHD2000006621	MS Imputation	rs137302113	ss251141148	A/C	A/C	20	22093784	UMD3.1	BovineHD2000006621-128_T_F_2255348407
BOVINEHD2000006624	MS Imputation	rs136883694	ss251141150	A/C	A/C	20	22139478	UMD3.1	BovineHD2000006624-128_T_F_2255339926
BOVINEHD2000006625	MS Imputation	rs134588397	ss251141151	T/C	A/G	20	22144338	UMD3.1	BovineHD2000006625-1_B_F_1764283167
BOVINEHD2000006627	MS Imputation	rs137769984	ss251141152	T/C	A/G	20	22145977	UMD3.1	BovineHD2000006627-128_B_F_2255343681
BOVINEHD2000006628	MS Imputation	rs133856276	ss251141153	T/C	A/G	20	22147660	UMD3.1	BovineHD2000006628-128_T_R_2255332277

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD2000006629	MS Imputation	rs135307323	ss251141154	A/C	A/C	20	22150287	UMD3.1	BovineHD2000006629-128_T_F_2255334312
BOVINEHD2000006630	MS Imputation	rs110629495	ss251141155	A/G	A/G	20	22151938	UMD3.1	BovineHD2000006630_dup-1_T_F_2253185440
BOVINEHD2000006631	MS Imputation	rs109132511	ss251141156	T/G	A/C	20	22152791	UMD3.1	BovineHD2000006631-128_T_R_2255344741
BOVINEHD2000006632	MS Imputation	rs137457140	ss251141157	T/C	A/G	20	22154025	UMD3.1	BovineHD2000006632-128_B_F_2255337793
BOVINEHD2000006633	MS Imputation	rs133039494	ss251141158	T/G	A/C	20	22155157	UMD3.1	BovineHD2000006633-128_T_R_2255338441
BOVINEHD2000006634	MS Imputation	rs137038711	ss251141159	A/G	A/G	20	22156100	UMD3.1	BovineHD2000006634-1_T_F_1764079693
BOVINEHD2000006635	MS Imputation	rs135590461	ss251141160	T/C	A/G	20	22158307	UMD3.1	BovineHD2000006635_dup-1_B_F_2253196263
BOVINEHD2000006636	MS Imputation	rs109038200	ss251141161	A/G	A/G	20	22159380	UMD3.1	BovineHD2000006636-128_T_F_2255343840
BOVINEHD2000006637	MS Imputation	rs109920871	ss251141162	T/C	A/G	20	22159928	UMD3.1	BovineHD2000006637-128_T_R_2255329404
BOVINEHD2000006639	MS Imputation	rs109341660	ss251141164	A/G	A/G	20	22161303	UMD3.1	BovineHD2000006639-128_T_F_2255352468
BOVINEHD2000006640	MS Imputation	rs109676473	ss251141165	A/G	A/G	20	22163174	UMD3.1	BovineHD2000006640-128_B_R_2255325665
BOVINEHD2000006641	MS Imputation	rs137613234	ss251141166	T/G	A/C	20	22164150	UMD3.1	BovineHD2000006641-128_B_F_2255330360
BOVINEHD2000006642	MS Imputation	rs133464757	ss251141167	T/C	A/G	20	22165869	UMD3.1	BovineHD2000006642-128_T_R_2255352065
BOVINEHD2000006643	MS Imputation	rs109546917	ss251141168	A/G	A/G	20	22166679	UMD3.1	BovineHD2000006643-128_B_R_2255338974
BOVINEHD2000006644	MS Imputation	rs109582725	ss251141169	A/G	A/G	20	22168107	UMD3.1	BovineHD2000006644-128_B_R_2255322499
BOVINEHD2000006645	MS Imputation	rs133243544	ss251141170	A/G	A/G	20	22170646	UMD3.1	BovineHD2000006645-128_B_R_2255326288
BOVINEHD2000006646	MS Imputation	rs134717199	ss251141171	A/G	A/G	20	22171796	UMD3.1	BovineHD2000006646-1_B_R_1764284382

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD2000006647	MS Imputation	rs136109157	ss251141172	T/C	A/G	20	22172452	UMD3.1	BovineHD2000006647-128_B_F_2255350226
BOVINEHD2000006648	MS Imputation	rs109791766	ss251141173	T/C	A/G	20	22173199	UMD3.1	BovineHD2000006648-128_T_R_2255343945
BOVINEHD2000006649	MS Imputation	rs135022286	ss251141174	A/G	A/G	20	22176594	UMD3.1	BovineHD2000006649-128_T_F_2255344378
BOVINEHD2000006650	MS Imputation	rs110289160	ss251141175	A/C	A/C	20	22177605	UMD3.1	BovineHD2000006650-128_B_R_2255332440
BOVINEHD2000006651	MS Imputation	rs109209899	ss251141176	A/G	A/G	20	22191560	UMD3.1	BovineHD2000006651-128_T_F_2255335344
BOVINEHD2000006652	MS Imputation	rs110655857	ss251141177	A/G	A/G	20	22195752	UMD3.1	BovineHD2000006652-128_B_R_2255327639
BOVINEHD2000006653	MS Imputation	rs110977488	ss251141178	A/G	A/G	20	22197248	UMD3.1	BovineHD2000006653_dup-1_B_R_2253185461
BOVINEHD2000006654	MS Imputation	rs110620576	ss251141179	T/C	A/G	20	22199002	UMD3.1	BovineHD2000006654-128_B_F_2255323111
BOVINEHD2000006655	MS Imputation	rs110061257	ss251141180	A/G	A/G	20	22200130	UMD3.1	BovineHD2000006655-128_T_F_2255334823
BOVINEHD2000006657	MS Imputation	rs110434786	ss251141181	A/C	A/C	20	22201747	UMD3.1	BovineHD2000006657-128_T_F_2255324425
BOVINEHD2000006659	MS Imputation	rs109445147	ss251141182	T/C	A/G	20	22203443	UMD3.1	BovineHD2000006659-128_T_R_2255326851
BOVINEHD2000006660	MS Imputation	rs110369146	ss251141183	T/C	A/G	20	22205116	UMD3.1	BovineHD2000006660-1_B_F_1764284520
BOVINEHD2000006661	MS Imputation	rs109288336	ss251141184	T/C	A/G	20	22205878	UMD3.1	BovineHD2000006661-128_T_R_2255346655
BOVINEHD2000006662	MS Imputation	rs110254448	ss251141185	A/G	A/G	20	22207124	UMD3.1	BovineHD2000006662-128_T_F_2255325428
BOVINEHD2000006663	MS Imputation	rs109694188	ss251141186	A/C	A/C	20	22207811	UMD3.1	BovineHD2000006663_dup-1_B_R_2253196288
BOVINEHD2000006665	MS Imputation	rs134583237	ss251141188	T/G	A/C	20	22210409	UMD3.1	BovineHD2000006665_dup-1_T_R_2253185471
BOVINEHD2000006666	MS Imputation	rs109429606	ss251141189	A/G	A/G	20	22211264	UMD3.1	BovineHD2000006666-128_T_F_2255340483

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD2000006667	MS Imputation	rs110973827	ss251141190	T/C	A/G	20	22211958	UMD3.1	BovineHD2000006667-128_B_F_2255343328
BOVINEHD2000006668	MS Imputation	rs110859017	ss251141191	A/G	A/G	20	22213427	UMD3.1	BovineHD2000006668-128_T_F_2255345280
BOVINEHD2000006669	MS Imputation	rs109868068	ss251141192	A/G	A/G	20	22216004	UMD3.1	BovineHD2000006669_dup-1_T_F_2253196293
BOVINEHD2000006670	MS Imputation	rs109142230	ss251141193	T/C	A/G	20	22218396	UMD3.1	BovineHD2000006670_dup-1_B_F_2253185474
BOVINEHD2000006672	MS Imputation	rs136518660	ss251141195	A/G	A/G	20	22222878	UMD3.1	BovineHD2000006672-128_B_R_2255341257
BOVINEHD2000006675	MS Imputation	rs132878971	ss251141198	A/G	A/G	20	22227475	UMD3.1	BovineHD2000006675-128_B_R_2255324566
BOVINEHD2000006676	MS Imputation	rs134317852	ss251141199	A/G	A/G	20	22230996	UMD3.1	BovineHD2000006676_dup-1_T_F_2253185480
BOVINEHD2000006677	MS Imputation	rs137509134	ss251141200	T/C	A/G	20	22231544	UMD3.1	BovineHD2000006677_dup-1_B_F_2253196295
BOVINEHD2000006678	MS Imputation	rs132704117	ss251141201	A/C	A/C	20	22232173	UMD3.1	BovineHD2000006678-128_B_R_2255343369
BOVINEHD2000006679	MS Imputation	rs110515392	ss251141202	A/G	A/G	20	22233266	UMD3.1	BovineHD2000006679-128_T_F_2255350148
BOVINEHD2000006681	MS Imputation	rs132955507	ss251141204	T/C	A/G	20	22234812	UMD3.1	BovineHD2000006681-128_B_F_2255352405
BOVINEHD2000006682	MS Imputation	rs134423056	ss251141205	T/C	A/G	20	22237123	UMD3.1	BovineHD2000006682-128_T_R_2255334802
BOVINEHD2000006683	MS Imputation	rs135401629	ss251141206	A/C	A/C	20	22246591	UMD3.1	BovineHD2000006683-128_B_R_2255343638
BOVINEHD2000006684	MS Imputation	rs136779111	ss251141207	A/G	A/G	20	22251794	UMD3.1	BovineHD2000006684-128_T_F_2255334232
BOVINEHD2000006685	MS Imputation	rs110445393	ss251141208	T/C	A/G	20	22258146	UMD3.1	BovineHD2000006685-1_B_F_1764284564
BOVINEHD2000006686	MS Imputation	rs137665259	ss251141209	A/G	A/G	20	22259437	UMD3.1	BovineHD2000006686-128_T_F_2255336281
BOVINEHD2000006687	MS Imputation	rs110342518	ss251141210	T/C	A/G	20	22266103	UMD3.1	BovineHD2000006687-128_B_F_2255338179

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD2000006688	MS Imputation	rs135070388	ss251141211	T/G	A/C	20	22270297	UMD3.1	BovineHD2000006688-128_T_R_2255331719
BOVINEHD2000006691	MS Imputation	rs110456301	ss251141213	T/G	A/C	20	22288482	UMD3.1	BovineHD2000006691-128_T_R_2255350875
BOVINEHD2000006692	MS Imputation	rs110773703	ss251141214	A/G	A/G	20	22290945	UMD3.1	BovineHD2000006692-128_T_F_2255330470
BOVINEHD2000006694	MS Imputation	rs109599663	ss251141216	T/C	A/G	20	22292889	UMD3.1	BovineHD2000006694-128_B_F_2255324093
BOVINEHD2000006695	MS Imputation	rs135187993	ss251141217	T/C	A/G	20	22294058	UMD3.1	BovineHD2000006695-128_B_F_2255345764
BOVINEHD2000006696	MS Imputation	rs136677596	ss251141218	T/C	A/G	20	22296015	UMD3.1	BovineHD2000006696-128_T_R_2255350911
BOVINEHD2000006697	MS Imputation	rs109267141	ss251141219	T/C	A/G	20	22302280	UMD3.1	BovineHD2000006697-128_T_R_2255352697
BOVINEHD2000006698	MS Imputation	rs135040686	ss251141220	A/G	A/G	20	22305614	UMD3.1	BovineHD2000006698-1_T_F_1764079770
BOVINEHD2000006699	MS Imputation	rs109612765	ss251141221	T/C	A/G	20	22306627	UMD3.1	BovineHD2000006699-128_B_F_2255322527
BOVINEHD2000006700	MS Imputation	rs110381595	ss251141222	A/G	A/G	20	22307439	UMD3.1	BovineHD2000006700-128_T_F_2255325488
BOVINEHD2000006701	MS Imputation	rs109330174	ss251141223	A/G	A/G	20	22316326	UMD3.1	BovineHD2000006701_dup-1_T_F_2253185503
BOVINEHD2000006702	MS Imputation	rs132697351	ss251141224	T/C	A/G	20	22317966	UMD3.1	BovineHD2000006702-128_T_R_2255350687
BOVINEHD2000006703	MS Imputation	rs137088041	ss251141225	T/G	A/C	20	22319187	UMD3.1	BovineHD2000006703-128_T_R_2255334085
BOVINEHD2000006704	MS Imputation	rs110661882	ss251141226	A/C	A/C	20	22322062	UMD3.1	BovineHD2000006704-128_B_R_2255340914
BOVINEHD2000006705	MS Imputation	rs136833789	ss251141227	T/C	A/G	20	22324048	UMD3.1	BovineHD2000006705-128_T_R_2255332969
BOVINEHD2000006706	MS Imputation	rs110168133	ss251141228	T/G	A/C	20	22326316	UMD3.1	BovineHD2000006706-128_T_R_2255324624
BOVINEHD2000006707	MS Imputation	rs136161243	ss251141229	A/G	A/G	20	22331172	UMD3.1	BovineHD2000006707_dup-1_T_F_2253185513

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD2000006709	MS Imputation	rs133406557	ss251141230	T/G	A/C	20	22338567	UMD3.1	BovineHD2000006709-1_T_R_1764079786
BOVINEHD2000006710	MS Imputation	rs110109906	ss251141231	T/C	A/G	20	22339787	UMD3.1	BovineHD2000006710-1_T_R_1764079788
BOVINEHD2000006721	MS Imputation	rs109890744	ss251141242	T/C	A/G	20	22375058	UMD3.1	BovineHD2000006721-1_T_R_1764079794
BOVINEHD2000006722	MS Imputation	rs137399383	ss251141243	T/G	A/C	20	22377679	UMD3.1	BovineHD2000006722-1_T_R_1764079796
BOVINEHD2000006723	MS Imputation	rs132840936	ss251141244	A/C	A/C	20	22382725	UMD3.1	BovineHD2000006723-1_T_F_1764079797
BOVINEHD2000006724	MS Imputation	rs134733058	ss251141245	A/G	A/G	20	22383288	UMD3.1	BovineHD2000006724-1_B_R_1764285350
BOVINEHD2000006726	MS Imputation	rs133239007	ss251141247	A/G	A/G	20	22391984	UMD3.1	BovineHD2000006726-1_T_F_1764079801
BOVINEHD2000006728	MS Imputation	rs111004996	ss251141249	A/C	A/C	20	22394280	UMD3.1	BovineHD2000006728-1_T_F_1764079803
BOVINEHD2000006729	MS Imputation	rs136831343	ss251141250	T/C	A/G	20	22397788	UMD3.1	BovineHD2000006729-1_B_F_1764285353
BOVINEHD2000006730	MS Imputation	rs134883699	ss251141251	T/C	A/G	20	22400341	UMD3.1	BovineHD2000006730-1_B_F_1764285355
BOVINEHD2000006731	MS Imputation	rs109414417	ss251141252	T/C	A/G	20	22404174	UMD3.1	BovineHD2000006731-1_B_F_1764285357
BOVINEHD2000006732	MS Imputation	rs133237532	ss251141253	T/C	A/G	20	22411821	UMD3.1	BovineHD2000006732-1_B_F_1764285359
BOVINEHD2000006734	MS Imputation	rs110838407	ss251141255	T/C	A/G	20	22419184	UMD3.1	BovineHD2000006734-1_T_R_1764079806
BOVINEHD2000006735	MS Imputation	rs133548394	ss251141256	T/C	A/G	20	22422045	UMD3.1	BovineHD2000006735-1_T_R_1764079808
BOVINEHD2000006736	MS Imputation	rs137403668	ss251141257	T/C	A/G	20	22422646	UMD3.1	BovineHD2000006736-1_B_F_1764285363
BOVINEHD2000006738	MS Imputation	rs136986533	ss251141259	A/C	A/C	20	22424887	UMD3.1	BovineHD2000006738-1_T_F_1764079811
BOVINEHD2000006739	MS Imputation	rs135384170	ss251141260	T/C	A/G	20	22425353	UMD3.1	BovineHD2000006739-1_B_F_1764285365

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD2000006741	MS Imputation	rs132670337	ss251141261	T/C	A/G	20	22431797	UMD3.1	BovineHD2000006741-1_B_F_1764285367
BOVINEHD2000006745	MS Imputation	rs134466444	ss251141265	T/G	A/C	20	22440338	UMD3.1	BovineHD2000006745-1_T_R_1764079816
BOVINEHD2000006746	MS Imputation	rs137560248	ss251141266	A/G	A/G	20	22440958	UMD3.1	BovineHD2000006746-1_T_F_1764079817
BOVINEHD2000006747	MS Imputation	rs109987290	ss251141267	A/G	A/G	20	22441853	UMD3.1	BovineHD2000006747-1_B_R_1764285376
BOVINEHD2000021147	MS Imputation	rs136515143	ss251154514	T/C	A/G	20	22067678	UMD3.1	BovineHD2000021147-128_T_R_2255333005
BOVINEHD2000021280	MS Imputation	rs132749438	ss251154606	A/G	A/G	20	22126788	UMD3.1	BovineHD2000021280-128_B_R_2255337300
BOVINEHD2100016524	MS Imputation	rs133173044	ss251169866	T/C	A/G	21	57516455	UMD3.1	BovineHD2100016524-1_T_R_1764201349
BOVINEHD2100016525	MS Imputation	rs134683696	ss251169867	T/C	A/G	21	57517551	UMD3.1	BovineHD2100016525-1_T_R_1764201405
BOVINEHD2100016527	MS Imputation	rs136891985	ss251169869	T/C	A/G	21	57527006	UMD3.1	BovineHD2100016527-128_B_F_2255337444
BOVINEHD2100016528	MS Imputation	rs110644751	ss251169870	A/G	A/G	21	57531997	UMD3.1	BovineHD2100016528-128_B_R_2255336620
BOVINEHD2100016530	MS Imputation	rs109238356	ss251169872	T/C	A/G	21	57534747	UMD3.1	BovineHD2100016530-128_B_F_2255323386
BOVINEHD2100016531	MS Imputation	rs135925992	ss251169873	A/G	A/G	21	57538101	UMD3.1	BovineHD2100016531_dup-1_T_F_2253196401
BOVINEHD2100016532	MS Imputation	rs132642563	ss251169874	T/C	A/G	21	57542024	UMD3.1	BovineHD2100016532-1_T_R_1764201416
BOVINEHD2100016533	MS Imputation	rs109291857	ss251169875	A/G	A/G	21	57545089	UMD3.1	BovineHD2100016533-128_T_F_2255342763
BOVINEHD2100016534	MS Imputation	rs109982769	ss251169876	T/C	A/G	21	57550317	UMD3.1	BovineHD2100016534-128_T_R_2255340678
BOVINEHD2100016535	MS Imputation	rs132952204	ss251169877	A/G	A/G	21	57552028	UMD3.1	BovineHD2100016535_dup-1_T_F_2253185641
BOVINEHD2100016536	MS Imputation	rs109856293	ss251169878	T/G	A/C	21	57554618	UMD3.1	BovineHD2100016536-128_T_R_2255351993

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD2100016537	MS Imputation	rs135583362	ss251169879	T/G	A/C	21	57559563	UMD3.1	BovineHD2100016537-128_B_F_2255326961
BOVINEHD2100016540	MS Imputation	rs110256359	ss251169881	A/G	A/G	21	57571792	UMD3.1	BovineHD2100016540-128_T_F_2255336108
BOVINEHD2100016541	MS Imputation	rs109644170	ss251169882	A/G	A/G	21	57573531	UMD3.1	BovineHD2100016541-1_T_F_1764201478
BOVINEHD2100016543	MS Imputation	rs110029635	ss251169883	A/G	A/G	21	57579759	UMD3.1	BovineHD2100016543-128_T_F_2255342476
BOVINEHD2100016545	MS Imputation	rs109313871	ss251169884	A/G	A/G	21	57583470	UMD3.1	BovineHD2100016545-128_T_F_2255347438
BOVINEHD2100016546	MS Imputation	rs135466038	ss251169885	A/C	A/C	21	57584406	UMD3.1	BovineHD2100016546_dup-1_B_R_2253196411
BOVINEHD2100016547	MS Imputation	rs109581592	ss251169886	T/G	A/C	21	57585768	UMD3.1	BovineHD2100016547-128_B_F_2255352584
BOVINEHD2100016550	MS Imputation	rs136919912	ss251169889	T/C	A/G	21	57592532	UMD3.1	BovineHD2100016550-1_T_R_1764201547
BOVINEHD2100016552	MS Imputation	rs109572467	ss251169891	T/C	A/G	21	57602687	UMD3.1	BovineHD2100016552-128_B_F_2255343326
BOVINEHD2100016557	MS Imputation	rs110932914	ss251169896	T/C	A/G	21	57616495	UMD3.1	BovineHD2100016557-1_T_R_1764201571
BOVINEHD2100016558	MS Imputation	rs109646593	ss251169897	T/C	A/G	21	57617532	UMD3.1	BovineHD2100016558-128_T_R_2255350704
BOVINEHD2100016559	MS Imputation	rs109148864	ss251169898	A/G	A/G	21	57619520	UMD3.1	BovineHD2100016559-128_B_R_2255341569
BOVINEHD2100016560	MS Imputation	rs110804489	ss251169899	A/G	A/G	21	57620088	UMD3.1	BovineHD2100016560-128_T_F_2255333184
BOVINEHD2100016562	MS Imputation	rs109815508	ss251169901	T/C	A/G	21	57622838	UMD3.1	BovineHD2100016562_dup-1_B_F_2253185665
BOVINEHD2100016564	MS Imputation	rs110548063	ss251169903	A/G	A/G	21	57625740	UMD3.1	BovineHD2100016564-128_B_R_2255331904
BOVINEHD2100016565	MS Imputation	rs134244925	ss251169904	A/G	A/G	21	57628025	UMD3.1	BovineHD2100016565-128_B_R_2255345425
BOVINEHD2100016566	MS Imputation	rs110591141	ss251169905	T/C	A/G	21	57630476	UMD3.1	BovineHD2100016566-128_T_R_2255352723

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD2100016567	MS Imputation	rs110448069	ss251169906	T/C	A/G	21	57631330	UMD3.1	BovineHD2100016567-128_T_R_2255339588
BOVINEHD2100016568	MS Imputation	rs110222227	ss251169907	T/C	A/G	21	57632259	UMD3.1	BovineHD2100016568-128_B_F_2255329711
BOVINEHD2100016569	MS Imputation	rs110356185	ss251169908	A/C	A/C	21	57633254	UMD3.1	BovineHD2100016569-128_T_F_2255328965
BOVINEHD2100016570	MS Imputation	rs109709412	ss251169909	T/C	A/G	21	57634362	UMD3.1	BovineHD2100016570_dup-1_B_F_2253185671
BOVINEHD2100016571	MS Imputation	rs110643952	ss251169910	T/C	A/G	21	57634960	UMD3.1	BovineHD2100016571-128_B_F_2255324637
BOVINEHD2100016572	MS Imputation	rs135970058	ss251169911	A/G	A/G	21	57636658	UMD3.1	BovineHD2100016572-128_T_F_2255345172
BOVINEHD2100016573	MS Imputation	rs136924373	ss251169912	T/C	A/G	21	57637535	UMD3.1	BovineHD2100016573-1_T_R_1764201643
BOVINEHD2100016574	MS Imputation	rs110250777	ss251169913	T/C	A/G	21	57638590	UMD3.1	BovineHD2100016574-128_B_F_2255334470
BOVINEHD2100016575	MS Imputation	rs110284474	ss251169914	A/G	A/G	21	57643901	UMD3.1	BovineHD2100016575-128_T_F_2255351938
BOVINEHD2100016576	MS Imputation	rs109122466	ss251169915	A/G	A/G	21	57647027	UMD3.1	BovineHD2100016576-128_T_F_2255336537
BOVINEHD2100016578	MS Imputation	rs110625801	ss251169916	A/G	A/G	21	57652221	UMD3.1	BovineHD2100016578_dup-1_T_F_2253185680
BOVINEHD2100016581	MS Imputation	rs134228091	ss251169918	A/G	A/G	21	57663342	UMD3.1	BovineHD2100016581-128_B_R_2255347938
BOVINEHD2100016582	MS Imputation	rs137491953	ss251169919	A/G	A/G	21	57665834	UMD3.1	BovineHD2100016582-128_B_R_2255346338
BOVINEHD2100016584	MS Imputation	rs137093125	ss251169921	T/C	A/G	21	57670889	UMD3.1	BovineHD2100016584-128_B_F_2255337963
BOVINEHD2100016586	MS Imputation	rs133561133	ss251169923	T/C	A/G	21	57689150	UMD3.1	BovineHD2100016586-1_T_R_1764201674
BOVINEHD2100016588	MS Imputation	rs136185842	ss251169925	A/G	A/G	21	57694827	UMD3.1	BovineHD2100016588_dup-1_B_R_2253185686
BOVINEHD2100016589	MS Imputation	rs133339907	ss251169926	T/C	A/G	21	57700703	UMD3.1	BovineHD2100016589-128_T_R_2255329634

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD2100016591	MS Imputation	rs110059621	ss251169927	A/G	A/G	21	57702577	UMD3.1	BovineHD2100016591-128_B_R_2255341017
BOVINEHD2100016592	MS Imputation	rs137824206	ss251169928	A/G	A/G	21	57704011	UMD3.1	BovineHD2100016592-128_B_R_2255350305
BOVINEHD2100016593	MS Imputation	rs133187310	ss251169929	A/G	A/G	21	57713677	UMD3.1	BovineHD2100016593_dup-1_T_F_2253196434
BOVINEHD2100016595	MS Imputation	rs110069552	ss251169931	A/G	A/G	21	57719367	UMD3.1	BovineHD2100016595-128_B_R_2255347058
BOVINEHD2100016596	MS Imputation	rs133863748	ss251169932	T/C	A/G	21	57720411	UMD3.1	BovineHD2100016596-128_B_F_2255325980
BOVINEHD2100016597	MS Imputation	rs134798153	ss251169933	A/G	A/G	21	57721222	UMD3.1	BovineHD2100016597-128_B_R_2255343403
BOVINEHD2100016598	MS Imputation	rs135732284	ss251169934	T/G	A/C	21	57722290	UMD3.1	BovineHD2100016598_dup-1_B_F_2253196436
BOVINEHD2100016599	MS Imputation	rs109182717	ss251169935	A/G	A/G	21	57723364	UMD3.1	BovineHD2100016599_dup-1_T_F_2253185697
BOVINEHD2100016600	MS Imputation	rs135194517	ss251169936	A/C	A/C	21	57724145	UMD3.1	BovineHD2100016600_dup-1_T_F_2253185698
BOVINEHD2100016601	MS Imputation	rs109292204	ss251169937	A/G	A/G	21	57727224	UMD3.1	BovineHD2100016601-128_T_F_2255347843
BOVINEHD2100016602	MS Imputation	rs110763504	ss251169938	T/C	A/G	21	57728401	UMD3.1	BovineHD2100016602-128_T_R_2255340233
BOVINEHD2100016604	MS Imputation	rs109691384	ss251169940	T/C	A/G	21	57732674	UMD3.1	BovineHD2100016604-128_T_R_2255336094
BOVINEHD2100016605	MS Imputation	rs109703871	ss251169941	T/C	A/G	21	57733541	UMD3.1	BovineHD2100016605-1_T_R_1764201737
BOVINEHD2100016606	MS Imputation	rs109893119	ss251169942	T/C	A/G	21	57734939	UMD3.1	BovineHD2100016606-128_T_R_2255345587
BOVINEHD2100016607	MS Imputation	rs132661844	ss251169943	T/C	A/G	21	57739066	UMD3.1	BovineHD2100016607-128_B_F_2255340859
BOVINEHD2100016608	MS Imputation	rs137095401	ss251169944	A/G	A/G	21	57742230	UMD3.1	BovineHD2100016608_dup-1_T_F_2253185707
BOVINEHD2100016609	MS Imputation	rs109187526	ss251169945	T/C	A/G	21	57743769	UMD3.1	BovineHD2100016609_dup-1_B_F_2253185709

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD2100016611	MS Imputation	rs110034825	ss251169947	T/G	A/C	21	57748274	UMD3.1	BovineHD2100016611_dup-1_T_R_2253196444
BOVINEHD2100016612	MS Imputation	rs135333516	ss251169948	A/G	A/G	21	57748780	UMD3.1	BovineHD2100016612-128_T_F_2255333850
BOVINEHD2100016613	MS Imputation	rs110747542	ss251169949	T/C	A/G	21	57749402	UMD3.1	BovineHD2100016613-128_B_F_2255331808
BOVINEHD2100016615	MS Imputation	rs110970759	ss251169951	A/G	A/G	21	57750655	UMD3.1	BovineHD2100016615-1_B_R_1764575977
BOVINEHD2100016616	MS Imputation	rs110705161	ss251169952	A/C	A/C	21	57751259	UMD3.1	BovineHD2100016616-128_B_R_2255350982
BOVINEHD2100016617	MS Imputation	rs109820230	ss251169953	A/G	A/G	21	57751744	UMD3.1	BovineHD2100016617-128_T_F_2255340857
BOVINEHD2100016618	MS Imputation	rs110293188	ss251169954	A/G	A/G	21	57753399	UMD3.1	BovineHD2100016618-128_T_F_2255328298
BOVINEHD2100016621	MS Imputation	rs109084873	ss251169956	T/C	A/G	21	57762005	UMD3.1	BovineHD2100016621-128_B_F_2255329065
BOVINEHD2100016622	MS Imputation	rs110653270	ss251169957	A/G	A/G	21	57763783	UMD3.1	BovineHD2100016622-128_T_F_2255346500
BOVINEHD2100016623	MS Imputation	rs110602373	ss251169958	T/C	A/G	21	57764362	UMD3.1	BovineHD2100016623_dup-1_T_R_2253196450
BOVINEHD2100016624	MS Imputation	rs110014695	ss251169959	T/G	A/C	21	57765781	UMD3.1	BovineHD2100016624-128_T_R_2255329842
BOVINEHD2300011313	MS Imputation	rs109545801	ss251200876	T/C	A/G	23	39126499	UMD3.1	BovineHD2300011313-128_B_F_2255330791
BOVINEHD2300011314	MS Imputation	rs136434578	ss251200877	A/G	A/G	23	39127775	UMD3.1	BovineHD2300011314-128_T_F_2255347778
BOVINEHD2300011315	MS Imputation	rs110156196	ss251200878	T/C	A/G	23	39133098	UMD3.1	BovineHD2300011315-128_T_R_2255328172
BOVINEHD2300011316	MS Imputation	rs135002667	ss251200879	T/G	A/C	23	39142614	UMD3.1	BovineHD2300011316-128_B_F_2255343725
BOVINEHD2300011317	MS Imputation	rs137845027	ss251200880	T/C	A/G	23	39146952	UMD3.1	BovineHD2300011317-128_T_R_2255322941
BOVINEHD2300011318	MS Imputation	rs133871312	ss251200881	T/C	A/G	23	39147776	UMD3.1	BovineHD2300011318-128_T_R_2255335980

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD2300011319	MS Imputation	rs137428599	ss251200882	A/G	A/G	23	39152535	UMD3.1	BovineHD2300011319-128_B_R_2255331132
BOVINEHD2300011320	MS Imputation	rs132689823	ss251200883	A/G	A/G	23	39158990	UMD3.1	BovineHD2300011320-1_B_R_1764651070
BOVINEHD2300011321	MS Imputation	rs110437758	ss251200884	A/G	A/G	23	39162040	UMD3.1	BovineHD2300011321-128_B_R_2255327628
BOVINEHD2300011322	MS Imputation	rs109457768	ss251200885	T/C	A/G	23	39170741	UMD3.1	BovineHD2300011322-1_T_R_1763364663
BOVINEHD2300011323	MS Imputation	rs110384053	ss251200886	T/G	A/C	23	39171533	UMD3.1	BovineHD2300011323-128_T_R_2255326569
BOVINEHD2300011324	MS Imputation	rs109013756	ss251200887	A/G	A/G	23	39172953	UMD3.1	BovineHD2300011324-128_T_F_2255339489
BOVINEHD2300011325	MS Imputation	rs110739320	ss251200888	T/C	A/G	23	39174542	UMD3.1	BovineHD2300011325_dup-1_T_R_2253185894
BOVINEHD2300011326	MS Imputation	rs136855128	ss251200889	T/C	A/G	23	39175206	UMD3.1	BovineHD2300011326-1_T_R_1763364671
BOVINEHD2300011327	MS Imputation	rs109613954	ss251200890	T/C	A/G	23	39179972	UMD3.1	BovineHD2300011327_dup-1_T_R_2253185897
BOVINEHD2300011328	MS Imputation	rs109337057	ss251200891	A/G	A/G	23	39180917	UMD3.1	BovineHD2300011328-1_T_F_1763364674
BOVINEHD2300011329	MS Imputation	rs133209910	ss251200892	A/G	A/G	23	39189171	UMD3.1	BovineHD2300011329-128_T_F_2255336130
BOVINEHD2300011330	MS Imputation	rs135355399	ss251200893	T/C	A/G	23	39193372	UMD3.1	BovineHD2300011330-128_T_R_2255328412
BOVINEHD2300011332	MS Imputation	rs109517103	ss251200894	T/C	A/G	23	39216022	UMD3.1	BovineHD2300011332_dup-1_T_R_2253185902
BOVINEHD2300011333	MS Imputation	rs133585635	ss251200895	T/C	A/G	23	39217286	UMD3.1	BovineHD2300011333-1_B_F_1764651077
BOVINEHD2300011335	MS Imputation	rs110874637	ss251200896	A/G	A/G	23	39222819	UMD3.1	BovineHD2300011335-1_B_R_1764651082
BOVINEHD2300011336	MS Imputation	rs110986504	ss251200897	T/C	A/G	23	39228565	UMD3.1	BovineHD2300011336-1_B_F_1764651083
BOVINEHD2300011337	MS Imputation	rs137015174	ss251200898	A/G	A/G	23	39232537	UMD3.1	BovineHD2300011337-128_T_F_2255323852

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD2300011338	MS Imputation	rs134733290	ss251200899	A/C	A/C	23	39236560	UMD3.1	BovineHD2300011338-128_T_F_2255330523
BOVINEHD2300011339	MS Imputation	rs135806819	ss251200900	T/G	A/C	23	39241545	UMD3.1	BovineHD2300011339-128_T_R_2255352214
BOVINEHD2300011340	MS Imputation	rs133732276	ss251200901	T/C	A/G	23	39248351	UMD3.1	BovineHD2300011340-128_T_R_2255352753
BOVINEHD2300011341	MS Imputation	rs135021193	ss251200902	T/C	A/G	23	39256906	UMD3.1	BovineHD2300011341-128_B_F_2255347561
BOVINEHD2300011342	MS Imputation	rs133006200	ss251200903	T/G	A/C	23	39260966	UMD3.1	BovineHD2300011342-128_B_F_2255335340
BOVINEHD2300011344	MS Imputation	rs133853564	ss251200904	T/C	A/G	23	39266577	UMD3.1	BovineHD2300011344-128_B_F_2255347756
BOVINEHD2300011345	MS Imputation	rs137420983	ss251200905	A/G	A/G	23	39269822	UMD3.1	BovineHD2300011345_dup-1_T_F_2253185913
BOVINEHD2300011346	MS Imputation	rs132673479	ss251200906	A/G	A/G	23	39272320	UMD3.1	BovineHD2300011346-1_T_F_1763364690
BOVINEHD2300011347	MS Imputation	rs137165417	ss251200907	T/C	A/G	23	39274007	UMD3.1	BovineHD2300011347-128_T_R_2255766602
BOVINEHD2300011348	MS Imputation	rs136306857	ss251200908	T/C	A/G	23	39277768	UMD3.1	BovineHD2300011348_dup-1_T_R_2253196548
BOVINEHD2300011349	MS Imputation	rs133044483	ss251200909	A/C	A/C	23	39279640	UMD3.1	BovineHD2300011349-1_B_R_1764651096
BOVINEHD2300011350	MS Imputation	rs134616916	ss251200910	T/C	A/G	23	39295118	UMD3.1	BovineHD2300011350-128_T_R_2255351323
BOVINEHD2300011351	MS Imputation	rs136158794	ss251200911	T/C	A/G	23	39300180	UMD3.1	BovineHD2300011351-1_T_R_1763364697
BOVINEHD2300011352	MS Imputation	rs136857507	ss251200912	T/C	A/G	23	39308113	UMD3.1	BovineHD2300011352-1_B_F_1764651097
BOVINEHD2300011353	MS Imputation	rs134746807	ss251200913	A/G	A/G	23	39309531	UMD3.1	BovineHD2300011353_dup-1_T_F_2253185916
BOVINEHD2300011354	MS Imputation	rs137580826	ss251200914	A/G	A/G	23	39310763	UMD3.1	BovineHD2300011354-128_T_F_2255345312
BOVINEHD2300011355	MS Imputation	rs109150455	ss251200915	A/G	A/G	23	39312609	UMD3.1	BovineHD2300011355-1_B_R_1764651100

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD2300011356	MS Imputation	rs109481326	ss251200916	T/G	A/C	23	39316415	UMD3.1	BovineHD2300011356_dup-1_T_R_2253185921
BOVINEHD2300011357	MS Imputation	rs136146355	ss251200917	A/G	A/G	23	39317559	UMD3.1	BovineHD2300011357-128_B_R_2255338872
BOVINEHD2300011358	MS Imputation	rs133827930	ss251200918	A/C	A/C	23	39318740	UMD3.1	BovineHD2300011358-1_B_R_1764651104
BOVINEHD2300011359	MS Imputation	rs109328707	ss251200919	A/G	A/G	23	39319640	UMD3.1	BovineHD2300011359-128_B_R_2255339044
BOVINEHD2300011360	MS Imputation	rs135755894	ss251200920	T/G	A/C	23	39320736	UMD3.1	BovineHD2300011360-128_T_R_2255350215
BOVINEHD2300011361	MS Imputation	rs109286302	ss251200921	T/C	A/G	23	39324557	UMD3.1	BovineHD2300011361_dup-1_B_F_2253185928
BOVINEHD2300011362	MS Imputation	rs135159952	ss251200922	T/C	A/G	23	39325744	UMD3.1	BovineHD2300011362-1_T_R_1763364707
BOVINEHD2300011363	MS Imputation	rs109625421	ss251200923	A/C	A/C	23	39333113	UMD3.1	BovineHD2300011363-1_T_F_1763364708
BOVINEHD2300011364	MS Imputation	rs110703590	ss251200924	T/C	A/G	23	39334104	UMD3.1	BovineHD2300011364-1_B_F_1764651109
BOVINEHD2300011365	MS Imputation	rs135624216	ss251200925	T/C	A/G	23	39337614	UMD3.1	BovineHD2300011365-128_T_R_2255324560
BOVINEHD2300011366	MS Imputation	rs133138372	ss251200926	T/C	A/G	23	39340244	UMD3.1	BovineHD2300011366_dup-1_B_F_2253196552
BOVINEHD2300011367	MS Imputation	rs134728948	ss251200927	A/G	A/G	23	39344666	UMD3.1	BovineHD2300011367-1_B_R_1764651114
BOVINEHD2300011368	MS Imputation	rs136270617	ss251200928	A/G	A/G	23	39348688	UMD3.1	BovineHD2300011368-1_B_R_1764651116
BOVINEHD2300011369	MS Imputation	rs109669764	ss251200929	T/C	A/G	23	39350996	UMD3.1	BovineHD2300011369-128_T_R_2255343895
BOVINEHD2300011370	MS Imputation	rs109655888	ss251200930	T/C	A/G	23	39352586	UMD3.1	BovineHD2300011370_dup-1_B_F_2253185935
BOVINEHD2300011371	MS Imputation	rs135950526	ss251200931	T/G	A/C	23	39356087	UMD3.1	BovineHD2300011371-1_B_F_1764651119
BOVINEHD2300011372	MS Imputation	rs110905055	ss251200932	A/G	A/G	23	39357369	UMD3.1	BovineHD2300011372-128_B_R_2255350569

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD2300011373	MS Imputation	rs109293533	ss251200933	T/C	A/G	23	39359545	UMD3.1	BovineHD2300011373-128_B_F_2255326858
BOVINEHD2300011374	MS Imputation	rs110267498	ss251200934	A/G	A/G	23	39361106	UMD3.1	BovineHD2300011374-128_B_R_2255342533
BOVINEHD2300011375	MS Imputation	rs110900035	ss251200935	A/G	A/G	23	39362566	UMD3.1	BovineHD2300011375-128_T_F_2255335400
BOVINEHD2300011377	MS Imputation	rs109722818	ss251200936	A/G	A/G	23	39365579	UMD3.1	BovineHD2300011377-128_B_R_2255324711
BOVINEHD2300011378	MS Imputation	rs110641490	ss251200937	A/G	A/G	23	39366704	UMD3.1	BovineHD2300011378-128_T_F_2255323726
BOVINEHD2300011379	MS Imputation	rs109888328	ss251200938	A/G	A/G	23	39371906	UMD3.1	BovineHD2300011379-128_B_R_2255343987
BOVINEHD2300011380	MS Imputation	rs137238004	ss251200939	T/G	A/C	23	39373737	UMD3.1	BovineHD2300011380-1_T_R_1763364719
BOVINEHD2300011381	MS Imputation	rs136287235	ss251200940	A/G	A/G	23	39375124	UMD3.1	BovineHD2300011381-128_T_F_2255338740
BOVINEHD2300011382	MS Imputation	rs110922673	ss251200941	A/G	A/G	23	39377385	UMD3.1	BovineHD2300011382-128_B_R_2255327438
BOVINEHD2300011384	MS Imputation	rs135731947	ss251200942	T/C	A/G	23	39389935	UMD3.1	BovineHD2300011384-128_T_R_2255325913
BOVINEHD2300011385	MS Imputation	rs110648665	ss251200943	T/G	A/C	23	39390857	UMD3.1	BovineHD2300011385_dup-1_T_R_2253185954
BOVINEHD2300011386	MS Imputation	rs110978376	ss251200944	A/C	A/C	23	39392036	UMD3.1	BovineHD2300011386_dup-1_B_R_2253185956
BOVINEHD2300011387	MS Imputation	rs109139688	ss251200945	A/G	A/G	23	39393720	UMD3.1	BovineHD2300011387_dup-1_B_R_2253185958
BOVINEHD2300011388	MS Imputation	rs136592362	ss251200946	T/C	A/G	23	39394508	UMD3.1	BovineHD2300011388-128_T_R_2255350571
BOVINEHD2300011389	MS Imputation	rs134199031	ss251200947	T/C	A/G	23	39395808	UMD3.1	BovineHD2300011389_dup-1_T_R_2253185962
BOVINEHD2300015697	MS Imputation	rs133676928	ss251204628	A/G	A/G	23	39209740	UMD3.1	BovineHD2300015697-128_T_F_2255336161
BOVINEHD4100000753	MS Imputation	rs110754106	ss251327338	T/G	A/C	1	132581850	UMD3.1	BovineHD4100000753-1_T_R_1763503058

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BOVINEHD410000754	MS Imputation	rs41643001	ss251327339	T/G	A/C	1	132606116	UMD3.1	BovineHD410000754_dup-1_T_R_2253186263
BOVINEHD4100003701	MS Imputation	rs109952864	ss251329876	T/C	A/G	5	56524373	UMD3.1	BovineHD4100003701-128_B_F_2255343076
BOVINEHD4100003702	MS Imputation	rs110707337	ss251329877	A/G	A/G	5	56526696	UMD3.1	BovineHD4100003702-128_B_R_2255348242
BOVINEHD4100003703	MS Imputation	rs41590095	ss251329878	T/C	A/G	5	56654439	UMD3.1	BovineHD4100003703-1_T_R_1763506142
BOVINEHD4100003704	MS Imputation	rs29022836	ss251329879	A/C	A/C	5	56864148	UMD3.1	BovineHD4100003704-128_T_F_2255340509
BOVINEHD4100003705	MS Imputation	rs41590097	ss251329880	T/C	A/G	5	56864864	UMD3.1	BovineHD4100003705-1_T_R_1763506146
BOVINEHD4100012398	MS Imputation	rs41578753	ss251337641	A/G	A/G	16	25645967	UMD3.1	BovineHD4100012398_dup-1_T_F_2253186328
BOVINEHD4100014340	MS Imputation	rs41638018	ss251339461	T/C	A/G	19	56541221	UMD3.1	BovineHD4100014340-128_B_F_2255334288
BOVINEHD4100014341	MS Imputation	rs41578697	ss251339462	T/C	A/G	19	56660022	UMD3.1	BovineHD4100014341_dup-1_B_F_2253186350
BOVINEHD4100014342	MS Imputation	rs41638022	ss251339463	T/C	A/G	19	56685960	UMD3.1	BovineHD4100014342-128_T_R_2255333121
BOVINEHD4100014343	MS Imputation	rs41638023	ss251339464	T/C	A/G	19	56688980	UMD3.1	BovineHD4100014343-128_T_R_2255338184
BOVINEHD4100015278	MS Imputation	rs41644573	ss251340327	A/G	A/G	21	57545720	UMD3.1	BovineHD4100015278-128_T_F_2255334885
BOVINEHD4100016192	MS Imputation	rs109471330	ss251341173	A/G	A/G	23	39155330	UMD3.1	BovineHD4100016192-128_B_R_2255340852
BOVINEHD4100016193	MS Imputation	rs110112492	ss251341174	A/G	A/G	23	39267731	UMD3.1	BovineHD4100016193-1_B_R_1763316104
BOVINEHD4100016194	MS Imputation	rs41644252	ss251341175	T/C	A/G	23	39285499	UMD3.1	BovineHD4100016194-128_B_F_2255324989
BTA-03986-RS29011742	MS Imputation	rs29011742	ss38326038	A/G	A/G	9	11008498	UMD3.1	BTA-03986-rs29011742_dup-0_B_R_2253189167
BTA-38177-NO-RS	MS Imputation	rs41633929	ss61536705	T/G	A/C	16	25915302	UMD3.1	BTA-38177-no-rs-0_T_R_1511541410

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
BTA-38195-NO-RS	MS Imputation	rs41578754	ss61481439	A/G	A/G	16	25648232	UMD3.1	BTA-38195-no-rs-0_B_R_1511541871
BTA-44155-NO-RS	MS Imputation	rs41637898	ss61539843	A/G	A/G	18	65370372	UMD3.1	BTA-44155-no-rs-0_B_R_1511533593
BTA-51403-NO-RS	MS Imputation	rs41582213	ss61484881	T/G	A/C	1	132518716	UMD3.1	BTA-51403-no-rs-128_B_F_2255834187
BTA-52592-NO-RS	MS Imputation	rs41644554	ss61544457	A/G	A/G	21	57658018	UMD3.1	BTA-52592-no-rs-0_T_F_1511533710
BTB-00124417	MS Imputation	rs43335034	ss65248405	T/G	A/C	3	33209622	UMD3.1	BTB-00124417_dup-0_B_F_2253187058
BTB-00126406	MS Imputation	rs43336218	ss65250391	T/C	A/G	3	32860177	UMD3.1	BTB-00126406_dup-0_T_R_2253182097
BTB-00763650	MS Imputation	rs41927246	ss62593797	A/G	A/G	19	56775870	UMD3.1	BTB-00763650-0_T_F_1511584076
BTB-02037802	MS Imputation	rs43141154	ss65052726	A/G	A/G	3	32829586	UMD3.1	BTB-02037802-0_T_F_1511544424
HAPMAP30258-BTA-143119	MS Imputation	rs110812510	ss117967752	A/G	A/G	5	56661587	UMD3.1	Hapmap30258-BTA-143119-128_T_F_2255834149
HAPMAP36170-SCAFFOLD200128_32745	MS Imputation	rs29019361	ss117969756	T/C	A/G	9	10765698	UMD3.1	Hapmap36170-SCAFFOLD200128_32745-0_T_R_1511628638
HAPMAP36453-SCAFFOLD151700_4571	MS Imputation	rs29010303	ss117967126	A/G	A/G	3	33121625	UMD3.1	Hapmap36453-SCAFFOLD151700_4571-0_B_R_1511628827
HAPMAP38633-BTA-83140	MS Imputation	rs41592651	ss61493105	T/G	A/C	9	10858927	UMD3.1	Hapmap38633-BTA-83140_dup-0_T_R_2253189025
HAPMAP39503-BTA-67470	MS Imputation	rs43711659	ss61552607	T/G	A/C	3	33154308	UMD3.1	Hapmap39503-BTA-67470_dup-0_B_F_2253191530
HAPMAP40909-BTA-121580	MS Imputation	rs41621706	ss61523540	A/G	A/G	3	32944221	UMD3.1	Hapmap40909-BTA-121580_dup-0_B_R_2253192319
HAPMAP43594-BTA-50052	MS Imputation	rs41580257	ss61484507	T/C	A/G	20	22429967	UMD3.1	Hapmap43594-BTA-50052-0_B_F_1511566631
HAPMAP48798-BTA-51401	MS Imputation	rs41638134	ss61543831	A/G	A/G	1	132388576	UMD3.1	Hapmap48798-BTA-51401_dup-0_B_R_2253181767
HAPMAP53517-RS29024619	MS Imputation	rs29024619	ss38334719	T/C	A/G	16	25935999	UMD3.1	Hapmap53517-rs29024619-128_T_R_2255766595

SNP Name	Group	rs	ss	Forward A/B alleles	Top A/B alleles	Chromosome	Position	Assembly	Illumina Probe ID
HAPMAP59246-RS29020402	MS Imputation	rs29020402	ss38328087	T/C	A/G	21	57563775	UMD3.1	Hapmap59246-rs29020402-0_T_R_1511547494
HAPMAP60497-RS29027497	MS Imputation	rs29027497	ss38329887	A/C	A/C	3	32881816	UMD3.1	Hapmap60497-rs29027497-0_T_F_1511553098
UA-IFASA-5041	MS Imputation	rs29014020	ss117963594	A/G	A/G	2	124086648	UMD3.1	UA-IFASA-5041-0_B_R_1511686800
UA-IFASA-5703	MS Imputation	rs41746511	ss117964868	A/G	A/G	15	24128943	UMD3.1	UA-IFASA-5703_dup-0_B_R_2253181950

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Genomic Flanking Sequence
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Genomic Flanking Sequence
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Genomic Flanking Sequence
CTTGC T G A A A A G A C G T G A A C T T A C T G T C T T C T G G T C C C A T G C A A C
G A A G T G C A T T T T T C C [A / G] G A A A T T T T A A G A A G A C T T T T T G C T T T T
C T T A C C A A T G G T A T G G A G T A T T G G C A A A C A A A T
T G A C A T G T T T T A A C A A C T A A G A G C A G T G G T G A C A T A T A A C A G C
T G C A A G C T C A C A C C T G [A / C] A T T A C C A G T G G A G G G A T T A G A G G C C
C G T G T T A T A A G A C G A G G G G T T T A A C G A C T T T A T A A
A T A G G A T A T T T G T C T G A C T G A C T G A C T A G T A G T C A T T C A C A G T C A G G
C T G A G C C A G T A A A T T Y [A / G] T C T T T C C C A T T A C T C T A A C A T T T G T A
C C C A T T G T T T T G C A A T T G T T C A T G G G A T A A T G A T
G T G T T T A A A A G C C A G C G T T A A T A T T T T T A A A A A G A A G A C C T C
T A G A T T T G K T G T T [A / G] T T A T C T G C C A G T A T G A A A A T G G A T G A
T T A A C C A A G C A A G A T T C C A A G A A G T C C T T T G G A A