

LIST of SNP FOR PARENTAGE VERIFICATION and PARENTAGE DISCOVERY as APPROVED BY ISAG and ICAR

SNP_Name	Group	rs	ss	Forward_A/B_alleles	Top_A/B_alleles	Chromosome	Position
ARS-USMARC-PARENT-AY761135-RS29003723	Verification	rs29003723	ss38341018	A/T	A/T	1	1.27E+08
ARS-USMARC-PARENT-AY776154-NO-RS	Verification	rs41257512	ss117966901	A/G	A/G	2	26997623
ARS-USMARC-PARENT-AY842472-RS29001941	Verification	rs29001941	ss38339339	C/G	C/G	3	40399136
ARS-USMARC-PARENT-AY842473-RS29001956	Verification	rs29001956	ss38339354	A/G	A/G	3	49703647
ARS-USMARC-PARENT-AY842474-RS29003226	Verification	rs29003226	ss38340448	G/C	C/G	3	51976646
ARS-USMARC-PARENT-AY842475-RS29002127	Verification	rs29002127	ss38339556	A/G	A/G	4	20181749
ARS-USMARC-PARENT-AY844963-RS17871338	Verification	rs17871338	ss28451679	A/G	A/G	5	98102349
ARS-USMARC-PARENT-AY849381-RS29003287	Verification	rs29003287	ss38340521	A/G	A/G	6	23562312
ARS-USMARC-PARENT-AY850194-NO-RS	Verification	rs41255750	ss117969490	T/C	A/G	8	59996431
ARS-USMARC-PARENT-AY851162-NO-RS	Verification	rs41255717	ss117970419	A/G	A/G	11	46411100
ARS-USMARC-PARENT-AY851163-RS17871661	Verification	rs17871661	ss28452002	T/C	A/G	11	1.03E+08
ARS-USMARC-PARENT-AY853302-NO-RS	Verification	rs41257524	ss117970873	A/G	A/G	13	47397987
ARS-USMARC-PARENT-AY853303-NO-RS	Verification	rs41257490	ss117970875	T/C	A/G	13	75383374
ARS-USMARC-PARENT-AY856094-RS17871190	Verification	rs17871190	ss28451531	A/G	A/G	29	9160939
ARS-USMARC-PARENT-AY858890-RS29002256	Verification	rs29002256	ss38339696	C/G	C/G	17	29936157
ARS-USMARC-PARENT-AY860426-NO-RS	Verification	rs41255724	ss117972311	T/G	A/C	17	5682519
ARS-USMARC-PARENT-AY863214-RS17871744	Verification	rs17871744	ss28452085	T/C	A/G	18	46647177
ARS-USMARC-PARENT-AY914316-RS17871403	Verification	rs17871403	ss28451744	T/G	A/C	18	48812014
ARS-USMARC-PARENT-AY916666-NO-RS	Verification	rs41257460	ss117972636	A/G	A/G	19	44799390
ARS-USMARC-PARENT-AY919868-RS29002211	Verification	rs29002211	ss38339648	A/G	A/G	20	46666109
ARS-USMARC-PARENT-AY929334-NO-RS	Verification	rs41255852	ss117973373	T/C	A/G	23	7219975
ARS-USMARC-PARENT-AY937242-RS17872223	Verification	rs17872223	ss28452564	A/G	A/G	23	27306795
ARS-USMARC-PARENT-AY939849-RS17870274	Verification	rs17870274	ss28450615	A/G	A/G	24	56451794
ARS-USMARC-PARENT-AY941204-RS17872131	Verification	rs17872131	ss28452472	T/C	A/G	25	14683151
ARS-USMARC-PARENT-AY943841-RS17871566	Verification	rs17871566	ss28451907	A/G	A/G	1	1.39E+08
ARS-USMARC-PARENT-DQ381152-RS29002408	Verification	rs29002408	ss38339879	T/A	A/T	17	17616950
ARS-USMARC-PARENT-DQ381153-RS29012842	Verification	rs29012842	ss38323940	T/G	A/C	1	3249057
ARS-USMARC-PARENT-DQ404149-NO-RS	Verification	rs42939801	ss117966457	T/C	A/G	1	99314925
ARS-USMARC-PARENT-DQ404150-RS29012530	Verification	rs29012530	ss38323621	T/G	A/C	1	59409838
ARS-USMARC-PARENT-DQ404151-RS29019282	Verification	rs29019282	ss38327170	T/C	A/G	1	1.51E+08
ARS-USMARC-PARENT-DQ404152-RS29022245	Verification	rs29022245	ss38330740	A/G	A/G	2	5306838
ARS-USMARC-PARENT-DQ404153-NO-RS	Verification	rs110843280	ss117974529	T/C	A/G	29	44756502
ARS-USMARC-PARENT-DQ435443-RS29010802	Verification	rs29010802	ss38325087	A/C	A/C	3	58040470
ARS-USMARC-PARENT-DQ451555-RS29010795	Verification	rs29010795	ss38325080	A/G	A/G	1	29524658
ARS-USMARC-PARENT-DQ468384-RS29003967	Verification	rs17871378	ss28451719	T/G	A/C	5	1.13E+08
ARS-USMARC-PARENT-DQ470475-NO-RS	Verification	rs43710106	ss117967919	T/A	A/T	5	7651053
ARS-USMARC-PARENT-DQ489377-RS29026932	Verification	rs29026932	ss38329318	T/C	A/G	3	98188384
ARS-USMARC-PARENT-DQ500958-NO-RS	Verification	rs43708500	ss117967922	A/G	A/G	5	27825118
ARS-USMARC-PARENT-DQ647186-RS29014143	Verification	rs29014143	ss38323045	A/G	A/G	4	17200594
ARS-USMARC-PARENT-DQ647187-RS29010510	Verification	rs29010510	ss38325021	A/G	A/G	3	21146877
ARS-USMARC-PARENT-DQ647189-RS29012226	Verification	rs29012226	ss38323313	T/C	A/G	5	63273386
ARS-USMARC-PARENT-DQ647190-RS29013632	Verification	rs29013632	ss38322528	A/G	A/G	6	13897068
ARS-USMARC-PARENT-DQ650635-RS29012174	Verification	rs29012174	ss38323259	T/C	A/G	7	55116289
ARS-USMARC-PARENT-DQ650636-RS29024525	Verification	rs29024525	ss38334625	T/C	A/G	8	28799249
ARS-USMARC-PARENT-DQ674265-RS29011266	Verification	rs29011266	ss38325554	T/C	A/G	8	1.06E+08
ARS-USMARC-PARENT-DQ786757-RS29019900	Verification	rs29019900	ss38327796	A/G	A/G	2	1.11E+08
ARS-USMARC-PARENT-DQ786758-RS29024430	Verification	rs29024430	ss38334530	T/G	A/C	7	18454636
ARS-USMARC-PARENT-DQ786759-RS29026696	Verification	rs29026696	ss38329081	A/G	A/G	7	94259472
ARS-USMARC-PARENT-DQ786761-RS29012840	Verification	rs29012840	ss38323938	T/C	A/G	10	44103665
ARS-USMARC-PARENT-DQ786762-RS29010772	Verification	rs29010772	ss38325057	T/G	A/C	10	81572252
ARS-USMARC-PARENT-DQ786763-RS29020472	Verification	rs29020472	ss38328160	A/T	A/T	12	11824653
ARS-USMARC-PARENT-DQ786764-NO-RS	Verification	rs109943112	ss117970659	T/G	A/C	12	25668974
ARS-USMARC-PARENT-DQ786766-RS29012070	Verification	rs29012070	ss38323155	A/G	A/G	10	3530271
ARS-USMARC-PARENT-DQ789028-RS29017713	Verification	rs29017713	ss38334020	T/C	A/G	6	46936182
ARS-USMARC-PARENT-DQ837643-RS29018818	Verification	rs29018818	ss38335912	A/G	A/G	11	66341589
ARS-USMARC-PARENT-DQ837644-RS29010468	Verification	rs29010468	ss38324977	A/C	A/C	8	88974063
ARS-USMARC-PARENT-DQ837645-RS29015870	Verification	rs29015870	ss38332364	T/C	A/G	11	24553007
ARS-USMARC-PARENT-DQ839235-RS29012691	Verification	rs29012691	ss38323789	A/C	A/C	3	1.16E+08
ARS-USMARC-PARENT-DQ846688-RS29023691	Verification	rs29023691	ss38336986	T/C	A/G	5	1.19E+08
ARS-USMARC-PARENT-DQ846690-NO-RS	Verification	rs43710049	ss117971671	T/C	A/G	14	10171919
ARS-USMARC-PARENT-DQ846691-RS29019814	Verification	rs29019814	ss38327708	T/C	A/G	14	48380429
ARS-USMARC-PARENT-DQ846692-RS29010281	Verification	rs29010281	ss38324786	A/G	A/G	14	80082923
ARS-USMARC-PARENT-DQ846693-RS29017621	Verification	rs29017621	ss38333927	A/G	A/G	16	9855276
ARS-USMARC-PARENT-DQ866817-NO-RS	Verification	rs43706884	ss117971908	A/G	A/G	15	38078775
ARS-USMARC-PARENT-DQ866818-RS29011701	Verification	rs29011701	ss38325997	A/C	A/C	15	79187295
ARS-USMARC-PARENT-DQ888309-RS29013741	Verification	rs29013741	ss38322638	T/G	A/C	7	8272794
ARS-USMARC-PARENT-DQ888310-RS29012422	Verification	rs29012422	ss38323509	A/C	A/C	17	991486
ARS-USMARC-PARENT-DQ888311-RS29017313	Verification	rs29017313	ss38333605	A/C	A/C	19	8505317
ARS-USMARC-PARENT-DQ888313-NO-RS	Verification	rs43708490	ss117972867	T/C	A/G	20	17837675
ARS-USMARC-PARENT-DQ916057-RS29009979	Verification	rs29009979	ss38324475	T/A	A/T	7	81591587
ARS-USMARC-PARENT-DQ916058-RS29016146	Verification	rs29016146	ss38332645	A/G	A/G	8	1554706
ARS-USMARC-PARENT-DQ916059-RS29009907	Verification	rs29009907	ss38324402	T/C	A/G	18	23426214
ARS-USMARC-PARENT-DQ984825-RS29012457	Verification	rs29012457	ss38323545	T/C	A/G	10	98230479
ARS-USMARC-PARENT-DQ984826-RS29027559	Verification	rs29027559	ss38329949	T/A	A/T	14	27751888
ARS-USMARC-PARENT-DQ984827-RS29012019	Verification	rs29012019	ss38323104	T/C	A/G	10	55611885
ARS-USMARC-PARENT-DQ990832-RS29015065	Verification	rs29015065	ss38326759	A/G	A/G	22	11382205
ARS-USMARC-PARENT-DQ990833-RS29010147	Verification	rs29010147	ss38324647	A/G	A/G	24	15447771

LIST of SNP FOR PARENTAGE VERIFICATION and PARENTAGE DISCOVERY as APPROVED BY ISAG and ICAR

SNP_Name	Group	rs	ss	Forward_A/B_alleles	Top_A/B_alleles	Chromosome	Position
ARS-USMARC-PARENT-DQ990834-RS29013727	Verification	rs29013727	ss38322624	A/G	A/G	26	8221270
ARS-USMARC-PARENT-DQ995976-NO-RS	Verification	rs43706859	ss117973059	T/C	A/G	21	3088886
ARS-USMARC-PARENT-DQ995977-RS29020834	Verification	rs29020834	ss38328525	T/C	A/G	24	1854953
ARS-USMARC-PARENT-EF026084-RS29025380	Verification	rs29025380	ss38331266	T/C	A/G	19	15345312
ARS-USMARC-PARENT-EF026086-RS29013660	Verification	rs29013660	ss38322556	T/C	A/G	28	35331560
ARS-USMARC-PARENT-EF026087-RS29011643	Verification	rs29011643	ss38325939	T/C	A/G	13	1982209
ARS-USMARC-PARENT-EF028073-RS29014953	Verification	rs29014953	ss38326646	T/C	A/G	18	1839733
ARS-USMARC-PARENT-EF034080-RS29024749	Verification	rs29024749	ss38334851	A/G	A/G	29	28647816
ARS-USMARC-PARENT-EF034081-RS29009668	Verification	rs29009668	ss38324161	A/T	A/T	13	25606469
ARS-USMARC-PARENT-EF034082-RS29013532	Verification	rs29013532	ss38322427	A/G	A/G	22	56526462
ARS-USMARC-PARENT-EF034083-RS29018286	Verification	rs29018286	ss38335376	T/G	A/C	25	3126438
ARS-USMARC-PARENT-EF034084-RS29016185	Verification	rs29016185	ss38332685	C/G	C/G	27	21480570
ARS-USMARC-PARENT-EF034085-RS29025677	Verification	rs29025677	ss38331569	A/G	A/G	28	5913226
ARS-USMARC-PARENT-EF034086-NO-RS	Verification	rs43708440	ss117974174	T/C	A/G	26	38233337
ARS-USMARC-PARENT-EF034087-NO-RS	Verification	rs110665639	ss117974397	T/C	A/G	28	16097749
ARS-USMARC-PARENT-EF042090-NO-RS	Verification	rs43708441	ss117971911	A/G	A/G	15	21207529
ARS-USMARC-PARENT-EF042091-RS29014974	Verification	rs29014974	ss38326667	A/G	A/G	28	44261945
ARS-USMARC-PARENT-EF093509-RS29015170	Verification	rs29015170	ss38326868	T/A	A/T	22	22573121
ARS-USMARC-PARENT-EF093511-RS29012316	Verification	rs29012316	ss38323403	T/G	A/C	21	26620013
ARS-USMARC-PARENT-EF093512-RS29013546	Verification	rs29013546	ss38322441	G/C	C/G	27	15141319
ARS-USMARC-PARENT-EF141102-RS29015783	Verification	rs29015783	ss38332274	A/G	A/G	27	37513923
ARS-USMARC-PARENT-EF150946-RS29023666	Verification	rs29023666	ss38336959	A/G	A/G	26	13229219
ARS-USMARC-PARENT-EF164803-RS29011141	Verification	rs29011141	ss38325429	A/G	A/G	19	55174260
ARS-BFGL-BAC-19454	Verification	rs109516152	ss105246072	A/G	A/G	16	13695211
ARS-BFGL-BAC-27364	Verification	rs110487850	ss105254853	A/C	A/C	1	8437530
ARS-BFGL-BAC-35552	Verification	rs41256483	ss105263926	A/G	A/G	2	12823369
ARS-BFGL-NGS-10035	Verification	rs110008575	ss86293049	T/C	A/G	26	39952154
ARS-BFGL-NGS-101456	Verification	rs43526009	ss86330195	T/C	A/G	7	82825197
ARS-BFGL-NGS-102169	Verification	rs110612889	ss86332885	A/C	A/C	27	12930436
ARS-BFGL-NGS-106015	Verification	rs109496638	ss86287153	A/G	A/G	6	61199572
ARS-BFGL-NGS-111053	Verification	rs110813850	ss86339707	T/C	A/G	5	72264603
ARS-BFGL-NGS-111076	Verification	rs110551361	ss86336856	T/C	A/G	21	21220448
ARS-BFGL-NGS-111114	Verification	rs43645607	ss86341013	T/G	A/C	10	84446642
ARS-BFGL-NGS-112094	Verification	rs109458348	ss86339335	T/C	A/G	13	69187742
ARS-BFGL-NGS-112325	Verification	rs110072997	ss86337040	T/C	A/G	12	79643103
ARS-BFGL-NGS-11383	Verification	rs110577061	ss86325850	A/G	A/G	17	12891997
ARS-BFGL-NGS-114006	Verification	rs109737083	ss86339571	A/G	A/G	25	20114319
ARS-BFGL-NGS-115514	Verification	rs109164374	ss86339408	A/G	A/G	15	38003134
ARS-BFGL-NGS-117319	Verification	rs42413708	ss86335720	A/G	A/G	16	12238539
ARS-BFGL-NGS-117322	Verification	rs109998259	ss86339948	A/G	A/G	11	77884744
ARS-BFGL-NGS-118319	Verification	rs110473808	ss86335543	A/C	A/C	17	9279323
ARS-BFGL-NGS-118340	Verification	rs110706775	ss86338640	T/G	A/C	18	26844474
ARS-BFGL-NGS-119662	Verification	rs108959343	ss86340083	A/G	A/G	6	1.18E+08
ARS-BFGL-NGS-14740	Verification	rs109548782	ss86311604	A/G	A/G	9	14436985
ARS-BFGL-NGS-15506	Verification	rs109448272	ss86285779	T/C	A/G	5	88334676
ARS-BFGL-NGS-15731	Verification	rs110220596	ss86301690	T/C	A/G	7	96936145
ARS-BFGL-NGS-24419	Verification	rs42002380	ss86317653	T/C	A/G	22	11756783
ARS-BFGL-NGS-26517	Verification	rs109651210	ss86291238	A/G	A/G	21	52139183
ARS-BFGL-NGS-27577	Verification	rs110735554	ss86284992	A/G	A/G	7	26066004
ARS-BFGL-NGS-31640	Verification	rs108961088	ss86289247	A/G	A/G	9	52430564
ARS-BFGL-NGS-31807	Verification	rs43638065	ss86311676	A/G	A/G	10	61684704
ARS-BFGL-NGS-36513	Verification	rs110803034	ss86327338	A/G	A/G	19	17236707
ARS-BFGL-NGS-38423	Verification	rs110643545	ss86285582	A/G	A/G	3	12709854
ARS-BFGL-NGS-38620	Verification	rs41902634	ss86313444	A/G	A/G	18	64382705
ARS-BFGL-NGS-39978	Verification	rs110425983	ss86287493	A/G	A/G	2	5757355
ARS-BFGL-NGS-42283	Verification	rs109007372	ss86295624	T/C	A/G	11	95443411
ARS-BFGL-NGS-42505	Verification	rs109614825	ss86323142	A/G	A/G	14	62478242
ARS-BFGL-NGS-55943	Verification	rs110196141	ss86285855	T/C	A/G	15	64628706
ARS-BFGL-NGS-57711	Verification	rs110925558	ss86288575	A/G	A/G	19	40692429
ARS-BFGL-NGS-58613	Verification	rs42254761	ss86288950	A/G	A/G	4	78609385
ARS-BFGL-NGS-67146	Verification	rs109136926	ss86297381	T/C	A/G	2	1.19E+08
ARS-BFGL-NGS-70946	Verification	rs109933901	ss86300858	A/C	A/C	10	14574453
ARS-BFGL-NGS-72471	Verification	rs109989231	ss86302621	A/C	A/C	7	1.03E+08
ARS-BFGL-NGS-76191	Verification	rs110846944	ss86306783	A/G	A/G	11	62732451
ARS-BFGL-NGS-76330	Verification	rs109978585	ss86306259	A/G	A/G	28	33449126
ARS-BFGL-NGS-86662	Verification	rs110949105	ss86316540	T/G	A/C	1	40206017
ARS-BFGL-NGS-93119	Verification	rs109133051	ss86323810	T/C	A/G	9	28149131
ARS-BFGL-NGS-96125	Verification	rs42640153	ss86326564	A/G	A/G	20	58449212
ARS-BFGL-NGS-99210	Verification	rs110578763	ss86329428	T/C	A/G	17	52740918
ARS-USMARC-569	Verification	rs109650557	ss117962557	A/G	A/G	17	30360942
ARS-USMARC-PARENT-AY841151-RS29003466	Verification	rs29003466	ss38340727	T/G	A/C	2	45832887
ARS-USMARC-PARENT-DQ786765-RS29009858	Verification	rs29009858	ss38324353	T/G	A/C	9	98483346
ARS-USMARC-PARENT-EF026085-RS29021607	Verification	rs29021607	ss38330092	A/C	A/C	21	65198296
ARS-USMARC-PARENT-EF089234-RS29020870	Verification	rs29020870	ss38328561	A/T	A/T	23	50884052
BTA-100621-NO-RS	Verification	rs41611675	ss61512369	A/G	A/G	22	25598780
BTA-11701-RS29017459	Verification	rs29017459	ss38333753	T/C	A/G	11	61989432
BTA-30857-NO-RS	Verification	rs41579524	ss61479561	A/G	A/G	12	80058952

LIST of SNP FOR PARENTAGE VERIFICATION and PARENTAGE DISCOVERY as APPROVED BY ISAG and ICAR

SNP_Name	Group	rs	ss	Forward_A/B_alleles	Top_A/B_alleles	Chromosome	Position
BTA-37062-NO-RS	Verification	rs41632769	ss61536141	T/G	A/C	15	51528617
BTA-73768-NO-RS	Verification	rs41647805	ss61555892	T/C	A/G	5	67031023
BTA-92021-NO-RS	Verification	rs41663009	ss61565762	A/T	A/T	11	9385008
BTB-00188171	Verification	rs43396375	ss65312019	A/G	A/G	4	57787437
BTB-00394801	Verification	rs43599414	ss65518069	A/C	A/C	9	59383405
BTB-00420215	Verification	rs43625528	ss65543436	A/C	A/C	10	44920804
BTB-00818821	Verification	rs41981646	ss62736870	A/G	A/G	21	40408803
BTB-01057979	Verification	rs42223561	ss63390705	T/C	A/G	1	1.14E+08
BTB-01285245	Verification	rs42411615	ss63968561	T/C	A/G	1	63277846
BTB-01371672	Verification	rs42492955	ss64140877	T/C	A/G	15	50566485
BTB-01416427	Verification	rs42537334	ss64230252	T/C	A/G	19	52911677
BTB-01478115	Verification	rs42595691	ss64353011	A/G	A/G	4	42103377
BTB-01902778	Verification	rs43014084	ss64919224	A/G	A/G	6	1.14E+08
BTB-01980499	Verification	rs43084864	ss64996227	T/C	A/G	12	61345454
HAPMAP24215-BTA-163266	Verification	rs109704141	ss117974193	T/G	A/C	27	10764825
HAPMAP31098-BTA-136127	Verification	rs109479519	ss117972951	T/C	A/C	21	62028408
HAPMAP34424-BES10_CONTIG566_926	Verification	rs43708462	ss66538092	A/G	A/G	24	6408329
HAPMAP35535-SCAFFOLD86180_8791	Verification	rs29023461	ss117973345	T/C	A/G	23	41700829
HAPMAP36588-SCAFFOLD90561_9460	Verification	rs29023669	ss117972848	A/G	A/G	20	2289049
HAPMAP39425-BTA-70290	Verification	rs41586923	ss61489805	T/G	A/C	4	10736763
HAPMAP39461-BTA-109898	Verification	rs41611358	ss61517053	T/G	A/C	21	27927781
HAPMAP40148-BTA-92999	Verification	rs41592395	ss61495728	T/G	A/C	11	36713471
HAPMAP40729-BTA-40319	Verification	rs41635414	ss61537824	T/C	A/G	16	19882683
HAPMAP41591-BTA-59790	Verification	rs41649671	ss117973994	T/C	A/G	25	27912102
HAPMAP42648-BTA-71195	Verification	rs41653000	ss61554558	T/C	A/G	4	71061224
HAPMAP43057-BTA-80741	Verification	rs41588251	ss61492499	T/C	A/G	7	13279972
HAPMAP43142-BTA-107561	Verification	rs41567696	ss61472156	A/G	A/G	6	29556343
HAPMAP43792-BTA-122725	Verification	rs41620645	ss61524403	T/C	A/G	13	83437845
HAPMAP43953-BTA-83292	Verification	rs41656801	ss61561086	A/G	A/G	22	54103673
HAPMAP46550-BTA-103548	Verification	rs41615770	ss61513810	A/T	A/T	20	30928803
HAPMAP46653-BTA-47447	Verification	rs41573026	ss61467906	T/A	A/T	2	41938704
HAPMAP47281-BTA-40051	Verification	rs41582312	ss61481907	A/G	A/G	16	72931875
HAPMAP49452-BTA-112834	Verification	rs41569794	ss61473375	A/G	A/G	4	72987997
HAPMAP50598-BTA-122724	Verification	rs41575075	ss61475502	A/G	A/G	19	4670556
HAPMAP51227-BTA-41809	Verification	rs41634345	ss61538562	A/G	A/G	17	67216420
HAPMAP51527-BTA-97415	Verification	rs41665299	ss61568611	A/G	A/G	6	44461834
HAPMAP51908-BTA-63031	Verification	rs41648007	ss61550226	T/C	A/G	27	41049981
HAPMAP52240-RS29013844	Verification	rs29013844	ss38322744	T/G	A/C	28	20453054
HAPMAP54020-RS29023153	Verification	rs29023153	ss38336442	A/G	A/G	18	6776532
HAPMAP54313-RS29012632	Verification	rs29012632	ss38323727	T/C	A/G	9	83320792
HAPMAP54547-RS29012198	Verification	rs29012198	ss38323285	T/C	A/G	4	1.11E+08
HAPMAP55441-RS29010990	Verification	rs29010990	ss38325276	A/G	A/G	8	1.03E+08
HAPMAP59876-RS29018046	Verification	rs29018046	ss38335133	A/G	A/G	2	13853729
HAPMAP60017-RS29023471	Verification	rs29023471	ss38336762	A/G	A/G	7	81668727
UA-IFASA-5034	Verification	rs29024763	ss117965805	T/C	A/G	29	29052623
UA-IFASA-6532	Verification	rs41640891	ss117965542	T/C	A/G	22	21770149
BTA-108007-no-rs	Discovery	rs41664832	ss61570066	T/G	A/C	1	1.16E+08
Hapmap49586-BTA-36632	Discovery	rs41582641	ss61481018	A/G	A/G	1	79700956
ARS-BFGL-NGS-103086	Discovery	rs109595377	ss86330023	A/G	A/G	2	2858436
BTB-01294230	Discovery	rs42418154	ss63986515	A/G	A/G	2	55038193
Hapmap44202-BTA-115270	Discovery	rs41620314	ss61519990	A/G	A/G	2	62367003
Hapmap53350-ss46526471	Discovery	rs41256934	ss46526471	T/C	A/G	2	1.26E+08
ARS-BFGL-NGS-116451	Discovery	rs42527283	ss86340874	A/C	A/C	3	1.14E+08
ARS-BFGL-NGS-99338	Discovery	rs110474631	ss86327855	T/C	A/G	3	21869985
ARS-USMARC-Parent-DQ422950-rs29012306	Discovery	rs29012306	ss38323393	A/C	A/C	3	3129167
BTA-99693-no-rs	Discovery	rs41596848	ss61497421	T/C	A/G	3	39522643
Hapmap39765-BTA-62582	Discovery	rs41646786	ss61549999	A/C	A/C	3	99317016
ARS-BFGL-NGS-51490	Discovery	rs109483098	ss86281895	G/C	C/G	5	16522966
BTB-01498887	Discovery	rs42620770	ss64394240	T/C	A/G	5	97111
Hapmap50084-BTA-74042	Discovery	rs41650242	ss61556030	T/C	A/G	5	75417666
ARS-BFGL-NGS-2141	Discovery	rs110850872	ss86295109	T/C	A/G	7	16371434
ARS-BFGL-NGS-61492	Discovery	rs110210825	ss86290741	T/C	A/G	7	70011889
BTA-09064-rs29025231	Discovery	rs29025231	ss38331116	A/C	A/C	7	1.12E+08
ARS-BFGL-NGS-28141	Discovery	rs109555469	ss86325310	T/C	A/G	8	97241486
UA-IFASA-2534	Discovery	rs29009895	ss117963993	T/C	A/G	8	45804905
ARS-USMARC-Parent-DQ837646-rs29012894	Discovery	rs29012894	ss38323993	A/C	A/C	11	1703612
BTA-88608-no-rs	Discovery	rs41597697	ss61494512	A/G	A/G	11	24317047
Hapmap41140-BTA-107332	Discovery	rs41616688	ss61515739	T/C	A/G	11	78545016
BTA-92697-no-rs	Discovery	rs41661000	ss61566157	T/C	A/G	13	50910557
Hapmap39398-BTA-31996	Discovery	rs41632359	ss61533405	A/C	A/C	13	26708860
Hapmap48136-BTA-96744	Discovery	rs41663038	ss61568240	T/C	A/G	13	719908
ARS-USMARC-Parent-DQ888312-rs29015945	Discovery	rs29015945	ss38332442	A/G	A/G	19	36437188
Hapmap39390-BTA-22146	Discovery	rs41630136	ss61528095	T/G	A/C	19	4509536
ARS-BFGL-NGS-19437	Discovery	rs110023442	ss86302854	T/C	A/G	21	47400719
Hapmap35472-SCAFFOLD35342_21388	Discovery	rs29017723	ss117973024	T/C	A/G	21	66107076
ARS-BFGL-NGS-35219	Discovery	rs108960855	ss86324609	T/C	A/G	4	1.07E+08
ARS-USMARC-Parent-DQ485413-no-rs	Discovery	rs41590225	ss140469302	T/C	A/G	4	94176209

LIST of SNP FOR PARENTAGE VERIFICATION and PARENTAGE DISCOVERY as APPROVED BY ISAG and ICAR

SNP_Name	Group	rs	ss	Forward_A/B_alleles	Top_A/B_alleles	Chromosome	Position
BTA-82216-no-rs	Discovery	rs41590598	ss61492850	A/G	A/G	4	52308430
BTB-01902057	Discovery	rs43013883	ss64918503	T/C	A/G	4	6604523
ARS-USMARC-Parent-AY849380-no-rs	Discovery	rs41255758	ss49846084	A/G	A/G	6	90562665
Hapmap50460-BTA-75791	Discovery	rs41595940	ss61491244	T/C	A/G	6	8478503
ARS-BFGL-NGS-26056	Discovery	rs110616633	ss86285011	A/G	A/G	9	3651455
ARS-BFGL-NGS-3465	Discovery	rs109170761	ss86314662	A/G	A/G	9	87606681
ARS-USMARC-Parent-DQ846689-rs29011985	Discovery	rs29011985	ss38323070	A/G	A/G	9	45729853
ARS-BFGL-NGS-35455	Discovery	rs110493467	ss86298634	A/G	A/G	10	10795992
Hapmap25493-BTA-109827	Discovery	rs43711263	ss61498362	T/C	A/G	10	4383927
ARS-USMARC-Parent-DQ832700-rs29012872	Discovery	rs29012872	ss38323971	A/C	A/C	12	80629629
BTA-23867-no-rs	Discovery	rs41630989	ss61528978	A/G	A/G	12	50865733
Hapmap48641-BTA-119400	Discovery	rs41617704	ss61522219	T/C	A/G	12	10996119
ARS-BFGL-NGS-103346	Discovery	rs110365259	ss86334026	A/G	A/G	14	68578968
ARS-BFGL-NGS-12610	Discovery	rs108991969	ss86325725	T/C	A/G	15	27822630
BTB-01912619	Discovery	rs43020250	ss64929001	A/G	A/G	15	20712027
Hapmap32097-BTA-150519	Discovery	rs109737932	ss117971819	A/G	A/G	15	56302387
ARS-USMARC-Parent-DQ846695-no-rs	Discovery	rs41825023	ss117972104	T/C	A/G	16	80747557
BTB-00689316	Discovery	rs41853796	ss62371709	T/C	A/G	17	71925055
BTB-01715543	Discovery	rs42825187	ss64733230	A/G	A/G	17	45185286
ARS-BFGL-NGS-37708	Discovery	rs41885368	ss86298769	A/G	A/G	18	49928003
Hapmap47949-BTA-43407	Discovery	rs41581677	ss61482794	A/G	A/G	18	44524702
ARS-USMARC-Parent-DQ990835-rs29012811	Discovery	rs29012811	ss38323909	G/C	C/G	20	36570529
BTB-00041743	Discovery	rs43252624	ss65165964	A/G	A/G	20	46735404
BTB-01565998	Discovery	rs42680109	ss64530672	A/G	A/G	20	37915840
Hapmap32669-BTA-50759	Discovery	rs41606327	ss61502418	A/G	A/G	20	50999239
Hapmap40826-BTA-87264	Discovery	rs41594336	ss61494128	A/G	A/G	20	496304
ARS-BFGL-NGS-119059	Discovery	rs110019581	ss86338680	A/G	A/G	22	58748602
ARS-BFGL-NGS-31568	Discovery	rs109579577	ss86316172	A/G	A/G	23	51795496
Hapmap23842-BTA-56935	Discovery	rs41600226	ss61502810	T/G	A/C	23	47219946
ARS-BFGL-NGS-2592	Discovery	rs109874767	ss86335484	T/C	A/G	24	12775555
ARS-BFGL-NGS-85334	Discovery	rs109014300	ss86315535	A/G	A/G	24	54964769
ARS-BFGL-NGS-16739	Discovery	rs109106222	ss86304574	T/C	A/G	25	20723432
ARS-USMARC-Parent-AY942198-rs29003010	Discovery	rs29003010	ss38340199	T/C	A/G	25	40851475
ARS-BFGL-NGS-35579	Discovery	rs110035524	ss86320766	T/G	A/C	26	26058953
ARS-BFGL-NGS-43058	Discovery	rs110952163	ss86300608	T/C	A/G	26	37466186
Hapmap42117-BTA-15977	Discovery	rs41624790	ss61524962	A/G	A/G	27	44629833
Hapmap43150-BTA-110538	Discovery	rs41614882	ss61517404	A/G	A/G	28	6732947
ARS-BFGL-NGS-56314	Discovery	rs109781094	ss86287263	T/C	A/G	29	4944723
ARS-BFGL-NGS-90760	Discovery	rs110854486	ss86321148	T/C	A/G	29	40153672
ARS-BFGL-NGS-104897	Discovery	rs43257282	ss86335115	A/C	A/C	1	1.13E+08
ARS-BFGL-NGS-113570	Discovery	rs109360740	ss86340246	A/G	A/G	1	9601018
ARS-BFGL-NGS-117553	Discovery	rs41994531	ss86341561	A/G	A/G	1	1.31E+08
ARS-BFGL-NGS-118073	Discovery	rs43266192	ss86341223	T/C	A/G	1	1.28E+08
ARS-BFGL-NGS-118398	Discovery	rs41584442	ss86341785	T/C	A/G	1	9019409
ARS-BFGL-NGS-119431	Discovery	rs110348226	ss86338192	T/C	A/G	1	78986953
ARS-BFGL-NGS-19741	Discovery	rs109629400	ss86316456	A/G	A/G	1	80548510
ARS-BFGL-NGS-32083	Discovery	rs42356323	ss86307480	T/C	A/G	1	1.09E+08
ARS-BFGL-NGS-40229	Discovery	rs109327270	ss86288046	A/G	A/G	1	62184184
ARS-BFGL-NGS-4047	Discovery	rs110710269	ss86289851	T/C	A/G	1	84614199
ARS-BFGL-NGS-67754	Discovery	rs41583110	ss86297683	T/C	A/G	1	1.49E+08
ARS-BFGL-NGS-76111	Discovery	rs110775913	ss86306448	A/G	A/G	1	1.03E+08
BTA-122684-NO-RS	Discovery	rs41619822	ss61524374	A/G	A/G	1	1.39E+08
BTA-23353-NO-RS	Discovery	rs41628641	ss61528709	A/C	A/C	1	60787763
BTA-35637-NO-RS	Discovery	rs41580510	ss61480774	T/C	A/G	1	5610335
BTA-46150-NO-RS	Discovery	rs41639071	ss61540930	T/C	A/G	1	1.03E+08
BTA-49375-NO-RS	Discovery	rs41578204	ss61484351	T/C	A/G	1	1.21E+08
BTB-00012128	Discovery	rs43223035	ss65136409	A/C	A/C	1	28599381
BTB-00052125	Discovery	rs43259942	ss65176334	T/C	A/G	1	1.2E+08
BTB-00061242	Discovery	rs43268844	ss65185443	A/G	A/G	1	1.33E+08
BTB-00076466	Discovery	rs43282562	ss65200647	A/G	A/G	1	1.58E+08
BTB-00468476	Discovery	rs43670957	ss65591615	A/C	A/C	1	46675519
BTB-01077379	Discovery	rs42234990	ss63448381	T/C	A/G	1	49279500
BTB-01086841	Discovery	rs42243124	ss63476669	T/C	A/G	1	94882093
BTB-01146838	Discovery	rs42303280	ss63656334	T/C	A/G	1	48802718
BTB-01287574	Discovery	rs42409034	ss63973210	T/C	A/G	1	1.34E+08
BTB-01728863	Discovery	rs42845302	ss64746472	T/C	A/G	1	5179453
BTB-02006134	Discovery	rs43113585	ss65021416	A/G	A/G	1	61357379
HAPMAP38147-BTA-25404	Discovery	rs41574703	ss61478189	A/C	A/C	1	57660748
HAPMAP39375-BTA-112108	Discovery	rs41612214	ss61518249	A/C	A/C	1	78449548
HAPMAP39712-BTA-109811	Discovery	rs110858680	ss61517016	T/G	A/C	1	1.02E+08
HAPMAP43297-BTA-57357	Discovery	rs41583126	ss117966440	T/C	A/G	1	1.52E+08
HAPMAP44395-BTA-64864	Discovery	rs41648924	ss61551244	A/G	A/G	1	1.54E+08
HAPMAP48717-BTA-31633	Discovery	rs41630790	ss61533227	A/G	A/G	1	59971879
HAPMAP49061-BTA-122268	Discovery	rs41624979	ss61524032	A/G	A/G	1	63742577
HAPMAP50048-BTA-59263	Discovery	rs41586446	ss61486868	A/G	A/G	1	27465349
HAPMAP52559-RS29015773	Discovery	rs29015773	ss38332264	T/G	A/C	1	8998063
HAPMAP57299-SS46527085	Discovery	rs41255628	ss46527085	T/C	A/G	1	1.45E+08

LIST of SNP FOR PARENTAGE VERIFICATION and PARENTAGE DISCOVERY as APPROVED BY ISAG and ICAR

SNP_Name	Group	rs	ss	Forward_A/B_alleles	Top_A/B_alleles	Chromosome	Position
ARS-BFGL-BAC-29664	Discovery	rs110341860	ss105257401	T/C	A/G	2	30635269
ARS-BFGL-BAC-30348	Discovery	rs110419748	ss105258160	A/G	A/G	2	22151093
ARS-BFGL-BAC-32404	Discovery	rs109320395	ss105260440	T/C	A/G	2	13343685
ARS-BFGL-NGS-116761	Discovery	rs110011842	ss86339699	T/C	A/G	2	1.36E+08
ARS-BFGL-NGS-118138	Discovery	rs42457132	ss86336697	A/G	A/G	2	67292723
ARS-BFGL-NGS-118876	Discovery	rs109264826	ss86339741	T/C	A/G	2	66585600
ARS-BFGL-NGS-15250	Discovery	rs109386162	ss86326904	A/G	A/G	2	89845085
ARS-BFGL-NGS-15508	Discovery	rs110868968	ss86328344	A/G	A/G	2	1.2E+08
ARS-BFGL-NGS-33709	Discovery	rs109419732	ss86315136	A/G	A/G	2	1.3E+08
ARS-BFGL-NGS-35963	Discovery	rs110551793	ss86303585	A/C	A/C	2	1.05E+08
ARS-BFGL-NGS-40189	Discovery	rs109189655	ss86321720	A/G	A/G	2	89008935
ARS-BFGL-NGS-57870	Discovery	rs110568121	ss86288122	A/G	A/G	2	37813654
ARS-BFGL-NGS-60640	Discovery	rs109370370	ss86291691	T/C	A/G	2	3242217
ARS-BFGL-NGS-67260	Discovery	rs109453608	ss86297852	A/G	A/G	2	1.35E+08
ARS-BFGL-NGS-72192	Discovery	rs109205936	ss86301441	T/C	A/G	2	65044427
ARS-BFGL-NGS-89098	Discovery	rs109154008	ss86318772	T/G	A/C	2	13901492
BTA-114831-NO-RS	Discovery	rs41574370	ss61473860	T/C	A/G	2	39709004
BTA-19852-NO-RS	Discovery	rs41628437	ss61526969	A/G	A/G	2	42986890
BTB-00079213	Discovery	rs43288464	ss65203384	A/G	A/G	2	8476975
BTB-00082871	Discovery	rs43293394	ss65207039	T/G	A/C	2	20699862
BTB-00089384	Discovery	rs43300334	ss65213533	T/C	A/G	2	35264900
BTB-00098773	Discovery	rs43304762	ss65222905	A/G	A/G	2	52497009
BTB-01753605	Discovery	rs42862169	ss64771163	T/C	A/G	2	55729126
HAPMAP33049-BTA-153946	Discovery	rs109475468	ss117966789	A/G	A/G	2	79320427
HAPMAP35220-BES9_CONTIG365_495	Discovery	rs43710074	ss66538228	T/C	A/G	2	70895063
HAPMAP35744-SCAFFOLD60587_8279	Discovery	rs29018369	ss117966872	A/C	A/C	2	1.11E+08
HAPMAP42104-BTA-121232	Discovery	rs41619967	ss61523297	T/C	A/G	2	81159639
HAPMAP43869-BTA-49512	Discovery	rs41636478	ss61542755	T/C	A/G	2	1.2E+08
HAPMAP44545-BTA-47658	Discovery	rs41637159	ss61541725	T/C	A/G	2	52339443
HAPMAP49925-BTA-24427	Discovery	rs41633771	ss61529263	A/G	A/G	2	86704498
HAPMAP51412-BTA-16926	Discovery	rs41621063	ss61525448	A/G	A/G	2	59690093
HAPMAP51598-BTA-47943	Discovery	rs41638821	ss61541849	T/C	A/G	2	65700940
HAPMAP52627-RS29014567	Discovery	rs29014567	ss38326256	T/G	A/C	2	1E+08
HAPMAP54320-RS29012920	Discovery	rs29012920	ss38324019	T/C	A/G	2	5037866
HAPMAP54766-RS29012658	Discovery	rs29012658	ss38323754	T/C	A/G	2	14451633
HAPMAP58509-RS29024139	Discovery	rs29024139	ss38334232	T/C	A/G	2	37635484
UA-IFASA-4619	Discovery	rs29014393	ss117963586	T/C	A/G	2	76309053
UA-IFASA-8833	Discovery	rs41643750	ss117963637	T/C	A/G	2	1.16E+08
ARS-BFGL-NGS-103524	Discovery	rs110713161	ss86332467	T/G	A/C	3	85253155
ARS-BFGL-NGS-105811	Discovery	rs110161964	ss86306287	A/G	A/G	3	22706379
ARS-BFGL-NGS-111118	Discovery	rs108937915	ss86338009	A/G	A/G	3	32077291
ARS-BFGL-NGS-113910	Discovery	rs110690853	ss86338078	T/G	A/C	3	43939238
ARS-BFGL-NGS-114028	Discovery	rs43365742	ss86339556	A/G	A/G	3	1.05E+08
ARS-BFGL-NGS-117241	Discovery	rs109896720	ss86338373	T/C	A/G	3	28144691
ARS-BFGL-NGS-117870	Discovery	rs109182422	ss86339080	T/C	A/G	3	33332678
ARS-BFGL-NGS-118597	Discovery	rs43355872	ss86336478	T/C	A/G	3	1.03E+08
ARS-BFGL-NGS-17527	Discovery	rs41621390	ss86286004	A/G	A/G	3	4279731
ARS-BFGL-NGS-20403	Discovery	rs43371159	ss86295607	T/G	A/C	3	1.19E+08
ARS-BFGL-NGS-2215	Discovery	rs43355620	ss86306392	A/G	A/G	3	84693517
ARS-BFGL-NGS-27948	Discovery	rs109754043	ss86304157	A/G	A/G	3	10000411
ARS-BFGL-NGS-34169	Discovery	rs109033268	ss86285964	A/G	A/G	3	19309220
ARS-BFGL-NGS-34393	Discovery	rs109268555	ss86274328	A/G	A/G	3	50673505
ARS-BFGL-NGS-45686	Discovery	rs109578131	ss86302394	A/G	A/G	3	26031815
ARS-BFGL-NGS-57417	Discovery	rs108998940	ss86288485	T/C	A/G	3	43975868
ARS-BFGL-NGS-58066	Discovery	rs111019940	ss86287927	T/C	A/G	3	92986164
BTA-100337-NO-RS	Discovery	rs109133797	ss61512219	T/C	A/G	3	41371572
BTA-68995-NO-RS	Discovery	rs43712181	ss61553433	A/T	A/T	3	97793166
BTB-01097609	Discovery	rs42253045	ss63508922	A/G	A/G	3	68271435
BTB-01626709	Discovery	rs42737927	ss64644746	T/C	A/G	3	1.14E+08
HAPMAP32799-BTA-132450	Discovery	rs41882343	ss117967002	T/C	A/G	3	73549770
HAPMAP40508-BTA-21513	Discovery	rs41575437	ss61477190	T/C	A/G	3	73035441
HAPMAP43906-BTA-66658	Discovery	rs41587368	ss61488827	A/G	A/G	3	14273135
HAPMAP43908-BTA-67758	Discovery	rs41590454	ss61489117	T/C	A/G	3	44959256
HAPMAP46717-BTA-69803	Discovery	rs41586388	ss61489670	A/G	A/G	3	1.18E+08
INRA-638	Discovery	rs110438768	ss117962838	A/G	A/G	3	62004226
ARS-BFGL-NGS-103280	Discovery	rs109268659	ss86332959	T/C	A/G	5	84523411
ARS-BFGL-NGS-107085	Discovery	rs109223185	ss86289994	T/C	A/G	5	28660813
ARS-BFGL-NGS-14632	Discovery	rs110117542	ss86329869	A/G	A/G	5	1.19E+08
ARS-BFGL-NGS-21717	Discovery	rs109513912	ss86313314	T/C	A/G	5	1.17E+08
ARS-BFGL-NGS-23432	Discovery	rs109724164	ss86277105	G/C	C/G	5	40112322
ARS-BFGL-NGS-23961	Discovery	rs110038808	ss86311819	A/G	A/G	5	25995476
ARS-BFGL-NGS-25107	Discovery	rs109607671	ss86319576	A/G	A/G	5	1.19E+08
ARS-BFGL-NGS-30677	Discovery	rs110873570	ss86294546	A/G	A/G	5	43565856
ARS-BFGL-NGS-33745	Discovery	rs110258843	ss86297916	A/G	A/G	5	51064864
ARS-BFGL-NGS-39913	Discovery	rs109168591	ss86320410	A/C	A/C	5	85535871
ARS-BFGL-NGS-44153	Discovery	rs109783698	ss86307990	T/C	A/G	5	97430973
ARS-BFGL-NGS-45453	Discovery	rs109934583	ss86276041	C/G	C/G	5	1.13E+08

LIST of SNP FOR PARENTAGE VERIFICATION and PARENTAGE DISCOVERY as APPROVED BY ISAG and ICAR

SNP_Name	Group	rs	ss	Forward_A/B_alleles	Top_A/B_alleles	Chromosome	Position
ARS-BFGL-NGS-53461	Discovery	rs110059642	ss86283356	A/G	A/G	5	30659497
ARS-BFGL-NGS-72413	Discovery	rs109023960	ss86303481	T/G	A/C	5	82466920
ARS-BFGL-NGS-7433	Discovery	rs109090162	ss86274207	T/G	A/C	5	44885503
ARS-BFGL-NGS-81155	Discovery	rs109443432	ss86311662	T/G	A/C	5	13271489
BTA-37834-NO-RS	Discovery	rs109957658	ss61481328	T/G	A/C	5	93187014
BTA-73797-NO-RS	Discovery	rs41590761	ss61490756	T/C	A/G	5	64190317
BTA-85566-NO-RS	Discovery	rs43743037	ss61562356	A/G	A/G	5	66040455
BTA-89424-NO-RS	Discovery	rs109089295	ss61564393	T/C	A/G	5	16666769
BTB-01495784	Discovery	rs42616286	ss64388054	T/C	A/G	5	34101843
HAPMAP33479-BTA-137049	Discovery	rs109840696	ss117967832	A/G	A/G	5	15224660
HAPMAP39103-BTA-111886	Discovery	rs41611298	ss61518129	A/C	A/C	5	91346899
HAPMAP40581-BTA-73771	Discovery	rs109701457	ss61555894	A/G	A/G	5	67153683
HAPMAP44400-BTA-72792	Discovery	rs41587982	ss61490476	A/G	A/G	5	15696963
HAPMAP47185-BTA-114173	Discovery	rs41573130	ss61473714	T/C	A/G	5	99044605
HAPMAP50837-BTA-98392	Discovery	rs41593990	ss61497060	T/C	A/G	5	46995137
HAPMAP51304-BTA-74559	Discovery	rs41591921	ss61490918	A/G	A/G	5	93718582
HAPMAP59828-RS29027014	Discovery	rs29027014	ss38329400	T/C	A/G	5	66830677
HAPMAP60420-RS29010136	Discovery	rs29010136	ss38324636	A/C	A/C	5	1.12E+08
ARS-BFGL-NGS-102603	Discovery	rs110351681	ss86331087	T/G	A/C	7	67495781
ARS-BFGL-NGS-109750	Discovery	rs110303958	ss86336681	A/G	A/C	7	45412030
ARS-BFGL-NGS-110438	Discovery	rs109370616	ss86335506	T/C	A/G	7	27258897
ARS-BFGL-NGS-117421	Discovery	rs43494965	ss86341439	A/G	A/G	7	4286714
ARS-BFGL-NGS-11889	Discovery	rs111029549	ss86320413	A/C	A/C	7	43292715
ARS-BFGL-NGS-75852	Discovery	rs109260182	ss86306495	T/C	A/G	7	71545383
BTA-104712-NO-RS	Discovery	rs41611784	ss61514411	T/G	A/C	7	57011212
BTA-113124-NO-RS	Discovery	rs43706044	ss61498638	T/C	A/G	7	73290787
BTA-20841-NO-RS	Discovery	rs41624194	ss61527534	A/G	A/G	7	92201609
BTB-00311926	Discovery	rs43517685	ss65435347	A/G	A/G	7	59651740
BTB-00312091	Discovery	rs43520350	ss65435512	A/C	A/C	7	63547825
BTB-00320041	Discovery	rs43526579	ss65443454	T/C	A/G	7	80573481
BTB-00327755	Discovery	rs43528937	ss65451163	T/C	A/G	7	76497957
BTB-00955215	Discovery	rs42118405	ss63104298	T/C	A/G	7	1.06E+08
BTB-01130079	Discovery	rs42284419	ss63606117	A/C	A/C	7	58255324
BTB-01172317	Discovery	rs42326854	ss63732749	A/G	A/G	7	36127497
BTB-01453354	Discovery	rs42579108	ss64303872	A/G	A/G	7	77038018
BTB-01920914	Discovery	rs43026255	ss64937240	A/G	A/G	7	86936090
HAPMAP30362-BTA-79378	Discovery	rs41605127	ss61504352	A/G	A/G	7	59353807
HAPMAP33032-BTA-148803	Discovery	rs42277425	ss117969067	A/G	A/G	7	68830299
HAPMAP50109-BTA-79983	Discovery	rs41656547	ss61559313	T/C	A/G	7	81964652
HAPMAP50113-BTA-80661	Discovery	rs41597420	ss61492473	A/G	A/G	7	8860921
UA-IFASA-4904	Discovery	rs29015019	ss117963926	T/C	A/G	7	35153271
ARS-BFGL-NGS-106379	Discovery	rs42390350	ss86307964	T/C	A/G	8	1.13E+08
ARS-BFGL-NGS-108099	Discovery	rs109279813	ss86317401	T/C	A/G	8	23116314
ARS-BFGL-NGS-108549	Discovery	rs110503484	ss86306174	T/C	A/G	8	82311830
ARS-BFGL-NGS-110811	Discovery	rs110481266	ss86339546	T/C	A/G	8	69343704
ARS-BFGL-NGS-111788	Discovery	rs43578821	ss86340085	G/C	C/G	8	1.01E+08
ARS-BFGL-NGS-117122	Discovery	rs109443931	ss86340374	A/G	A/G	8	20608192
ARS-BFGL-NGS-16925	Discovery	rs110070404	ss86323536	T/C	A/G	8	64476783
ARS-BFGL-NGS-30559	Discovery	rs110282071	ss86312018	A/G	A/G	8	51719716
ARS-BFGL-NGS-37680	Discovery	rs43773249	ss86315576	A/C	A/C	8	55778679
ARS-BFGL-NGS-44611	Discovery	rs110839325	ss86294603	A/G	A/G	8	60225941
ARS-BFGL-NGS-71395	Discovery	rs42216771	ss86301528	A/G	A/G	8	24707157
ARS-BFGL-NGS-92824	Discovery	rs111025793	ss86323461	A/G	A/G	8	1.12E+08
BTA-101724-NO-RS	Discovery	rs41616289	ss61512891	T/C	A/G	8	93896073
BTA-80863-NO-RS	Discovery	rs41658821	ss61559804	G/C	C/G	8	22130988
BTB-00095699	Discovery	rs43303344	ss65219838	T/C	A/G	8	15334805
BTB-00285653	Discovery	rs43499009	ss65409130	T/C	A/G	8	30036807
BTB-00431734	Discovery	rs43640778	ss65554940	A/G	A/G	8	1.1E+08
BTB-01109703	Discovery	rs42264490	ss63545166	A/G	A/G	8	26899147
BTB-01276763	Discovery	rs42400277	ss63951620	A/C	A/C	8	3798414
BTB-01944037	Discovery	rs43053569	ss64960232	A/G	A/G	8	1.09E+08
HAPMAP24224-BTA-93350	Discovery	rs41606159	ss61505413	A/C	A/C	8	65960156
HAPMAP39690-BTA-82650	Discovery	rs41590921	ss61492973	A/C	A/C	8	1.05E+08
HAPMAP45337-BTA-109277	Discovery	rs41618019	ss61516718	G/C	C/G	8	4955143
HAPMAP49049-BTA-119736	Discovery	rs41571461	ss61475068	T/C	A/G	8	55892688
HAPMAP49333-BTA-82773	Discovery	rs41609510	ss61510981	A/G	A/G	8	1.09E+08
HAPMAP57430-RS29016504	Discovery	rs29016504	ss38333008	A/G	A/G	8	1154683
HAPMAP58894-RS29013940	Discovery	rs29013940	ss38322841	T/C	A/G	8	99957737
HAPMAP58990-RS29020862	Discovery	rs29020862	ss38328553	T/C	A/G	8	9962339
UA-IFASA-6154	Discovery	rs41590851	ss117964020	T/C	A/G	8	1.04E+08
ARS-BFGL-BAC-14220	Discovery	rs109677705	ss105240266	A/G	A/G	11	13914771
ARS-BFGL-NGS-10436	Discovery	rs109880920	ss86289220	T/C	A/G	11	26982927
ARS-BFGL-NGS-109752	Discovery	rs109391965	ss86335949	T/G	A/C	11	95322986
ARS-BFGL-NGS-111691	Discovery	rs41597473	ss86340494	T/G	A/C	11	44844492
ARS-BFGL-NGS-112130	Discovery	rs109194444	ss86335992	T/C	A/G	11	1.03E+08
ARS-BFGL-NGS-114087	Discovery	rs110374329	ss86336971	A/G	A/G	11	64057850
ARS-BFGL-NGS-116589	Discovery	rs109391018	ss86341591	A/G	A/G	11	1.01E+08

LIST of SNP FOR PARENTAGE VERIFICATION and PARENTAGE DISCOVERY as APPROVED BY ISAG and ICAR

SNP_Name	Group	rs	ss	Forward_A/B_alleles	Top_A/B_alleles	Chromosome	Position
ARS-BFGL-NGS-117672	Discovery	rs109144352	ss86339235	T/C	A/G	11	31332721
ARS-BFGL-NGS-24591	Discovery	rs110734659	ss86314415	A/G	A/G	11	42330073
ARS-BFGL-NGS-28681	Discovery	rs109732456	ss86289852	T/C	A/G	11	1.02E+08
ARS-BFGL-NGS-41117	Discovery	rs109850773	ss86321402	T/C	A/G	11	6724678
ARS-BFGL-NGS-5662	Discovery	rs110152455	ss86292486	T/C	A/G	11	83028893
ARS-BFGL-NGS-66512	Discovery	rs110248771	ss86297019	A/G	A/G	11	36983331
ARS-BFGL-NGS-68030	Discovery	rs43659115	ss86298860	T/C	A/G	11	1901787
ARS-BFGL-NGS-68850	Discovery	rs42274427	ss86298915	T/C	A/G	11	5252617
BTA-99659-NO-RS	Discovery	rs41596833	ss61497406	T/C	A/G	11	30945111
BTB-00474688	Discovery	rs43663587	ss65581933	A/C	A/C	11	10753131
BTB-00474688	Discovery	rs43680229	ss65597810	T/C	A/G	11	50431031
BTB-01397485	Discovery	rs42520028	ss64192391	T/C	A/G	11	33236456
BTB-01426876	Discovery	rs42552262	ss64251080	T/C	A/G	11	34482175
HAPMAP22963-BTA-91941	Discovery	rs41604980	ss61505330	T/G	A/C	11	1806374
HAPMAP33373-BTA-148341	Discovery	rs110590483	ss117970339	A/G	A/G	11	39437937
HAPMAP43815-BTA-23051	Discovery	rs41626586	ss61528544	T/C	A/G	11	44583035
HAPMAP48543-BTA-98093	Discovery	rs41668260	ss61568981	A/G	A/G	11	59319163
ARS-BFGL-BAC-11276	Discovery	rs110053849	ss105237002	A/G	A/G	13	2153905
ARS-BFGL-NGS-103379	Discovery	rs42580320	ss86330316	T/C	A/G	13	3764223
ARS-BFGL-NGS-108308	Discovery	rs109618623	ss86289651	T/G	A/C	13	28999095
ARS-BFGL-NGS-111777	Discovery	rs109436345	ss86340999	T/C	A/G	13	35029615
ARS-BFGL-NGS-112625	Discovery	rs109238076	ss86337827	T/C	A/G	13	74579327
ARS-BFGL-NGS-11585	Discovery	rs109418164	ss86324125	A/C	A/C	13	17407043
ARS-BFGL-NGS-118453	Discovery	rs110768475	ss86339738	A/G	A/G	13	74179277
ARS-BFGL-NGS-22052	Discovery	rs43708211	ss86340346	T/C	A/G	13	61559991
ARS-BFGL-NGS-28202	Discovery	rs110452193	ss86314069	A/G	A/G	13	38359460
ARS-BFGL-NGS-29144	Discovery	rs41689621	ss86280267	C/G	C/G	13	40606621
ARS-BFGL-NGS-36793	Discovery	rs111027602	ss86273810	A/G	A/G	13	80239131
ARS-BFGL-NGS-36852	Discovery	rs110779743	ss86296804	A/G	A/G	13	37210394
ARS-BFGL-NGS-55042	Discovery	rs109631491	ss86285379	A/G	A/G	13	45510831
ARS-BFGL-NGS-81428	Discovery	rs110541329	ss86311680	A/G	A/G	13	20735468
ARS-BFGL-NGS-84327	Discovery	rs41681601	ss86314715	T/C	A/G	13	5774000
ARS-BFGL-NGS-92946	Discovery	rs41679621	ss86323130	T/C	A/G	13	16399441
BTA-102818-NO-RS	Discovery	rs41612098	ss61513418	A/C	A/C	13	83632355
BTB-01124378	Discovery	rs42283006	ss63589116	A/G	A/G	13	6600008
BTB-01141508	Discovery	rs42300745	ss63640372	T/G	A/C	13	6790099
BTB-01141770	Discovery	rs42303607	ss63641158	T/C	A/G	13	777430
BTB-01656080	Discovery	rs42771121	ss64674033	A/G	A/G	13	51621880
HAPMAP23870-BTA-128381	Discovery	rs41690422	ss117970697	T/G	A/C	13	43427963
HAPMAP26649-BTA-128159	Discovery	rs41679704	ss117970743	T/C	A/G	13	19734286
HAPMAP50266-BTA-13664	Discovery	rs29018622	ss38335716	A/G	A/G	13	18536707
HAPMAP54459-RS29016219	Discovery	rs29016219	ss38332719	A/G	A/G	13	12436043
HAPMAP57586-RS29015232	Discovery	rs29015232	ss38326931	T/C	A/G	13	6396120
HAPMAP59420-SS46527113	Discovery	rs41255656	ss46527113	A/G	A/G	13	35333998
ARS-BFGL-NGS-103691	Discovery	rs109895974	ss86330883	A/G	A/G	19	53473744
ARS-BFGL-NGS-1097	Discovery	rs110474375	ss86274483	T/C	A/G	19	34836416
ARS-BFGL-NGS-112392	Discovery	rs41925019	ss86338991	T/G	A/C	19	56341205
ARS-BFGL-NGS-114067	Discovery	rs110706642	ss86339580	T/C	A/G	19	46117735
ARS-BFGL-NGS-12595	Discovery	rs109076010	ss86292850	T/C	A/G	19	55101341
ARS-BFGL-NGS-16504	Discovery	rs110727417	ss86305593	A/C	A/C	19	55967853
ARS-BFGL-NGS-28504	Discovery	rs109751693	ss86285474	A/G	A/G	19	44403315
ARS-BFGL-NGS-32769	Discovery	rs110865656	ss86300067	T/C	A/G	19	22346456
ARS-BFGL-NGS-32846	Discovery	rs109282926	ss86335598	A/G	A/G	19	63560230
ARS-BFGL-NGS-33000	Discovery	rs110046289	ss86296211	A/G	A/G	19	10542886
ARS-BFGL-NGS-42338	Discovery	rs110407219	ss86295481	A/G	A/G	19	17326249
ARS-BFGL-NGS-45547	Discovery	rs42429829	ss86306230	A/G	A/G	19	62478817
ARS-BFGL-NGS-6269	Discovery	rs110000667	ss86295403	A/G	A/G	19	29411883
ARS-BFGL-NGS-64451	Discovery	rs110466604	ss86294159	T/C	A/G	19	60407194
ARS-BFGL-NGS-73980	Discovery	rs110514489	ss86304368	T/C	A/G	19	51419352
BTA-118486-NO-RS	Discovery	rs41572555	ss61474763	T/C	A/G	19	21716537
BTB-00736933	Discovery	rs41895988	ss62513857	A/C	A/C	19	8280552
HAPMAP26973-BTA-147422	Discovery	rs110392985	ss117972526	T/C	A/G	19	12340926
HAPMAP40170-BTA-20573	Discovery	rs41623352	ss117972620	T/G	A/C	19	19175183
HAPMAP42556-BTA-45815	Discovery	rs41636899	ss61540754	T/C	A/G	19	51445450
HAPMAP46758-BTA-108921	Discovery	rs41571534	ss61472509	A/G	A/G	19	26182297
HAPMAP57648-RS29022376	Discovery	rs29022376	ss38330872	A/G	A/G	19	22709090
HAPMAP58587-SS46526997	Discovery	rs41255542	ss46526997	A/G	A/G	19	24972085
UA-IFASA-7987	Discovery	rs41640012	ss117965319	A/G	A/G	19	18799689
UA-IFASA-8658	Discovery	rs41665355	ss117965384	T/G	A/C	19	47415500
ARS-BFGL-NGS-104603	Discovery	rs110316813	ss86335025	A/G	A/G	21	2918184
ARS-BFGL-NGS-109907	Discovery	rs110229647	ss86337107	T/C	A/G	21	12539191
ARS-BFGL-NGS-114538	Discovery	rs109726203	ss86339325	T/C	A/G	21	70521657
ARS-BFGL-NGS-115346	Discovery	rs109826517	ss86339596	T/C	A/G	21	67515244
ARS-BFGL-NGS-115598	Discovery	rs110842067	ss86340340	T/C	A/G	21	62709685
ARS-BFGL-NGS-117619	Discovery	rs110351726	ss86338139	A/G	A/G	21	31035761
ARS-BFGL-NGS-13360	Discovery	rs42267294	ss86340145	A/G	A/G	21	30118274
ARS-BFGL-NGS-16249	Discovery	rs109396729	ss86298800	T/C	A/G	21	10944434

LIST of SNP FOR PARENTAGE VERIFICATION and PARENTAGE DISCOVERY as APPROVED BY ISAG and ICAR

SNP_Name	Group	rs	ss	Forward_A/B_alleles	Top_A/B_alleles	Chromosome	Position
ARS-BFGL-NGS-22685	Discovery	rs110574752	ss86306574	T/C	A/G	21	46877052
ARS-BFGL-NGS-23813	Discovery	rs109453755	ss86326298	A/C	A/C	21	42540260
ARS-BFGL-NGS-25959	Discovery	rs109290113	ss86298390	T/C	A/G	21	64354251
ARS-BFGL-NGS-2644	Discovery	rs110204931	ss86308993	T/C	A/G	21	70608408
ARS-BFGL-NGS-37484	Discovery	rs110976149	ss86325665	T/C	A/G	21	68683196
ARS-BFGL-NGS-44686	Discovery	rs110105912	ss86311678	T/C	A/G	21	9190518
ARS-BFGL-NGS-8229	Discovery	rs41970500	ss86321762	T/C	A/G	21	22156279
BTB-00806621	Discovery	rs43725759	ss62700450	A/G	A/G	21	18912588
BTB-01303828	Discovery	rs42428520	ss64005684	T/C	A/G	21	37143433
BTB-01375460	Discovery	rs42499708	ss64148441	A/G	A/G	21	51325226
HAPMAP26512-BTA-52638	Discovery	rs41608374	ss61502567	T/C	A/G	21	55483469
HAPMAP38899-BTA-52139	Discovery	rs41641697	ss61544199	A/C	A/C	21	36492508
HAPMAP52072-RS29018920	Discovery	rs29018920	ss38336017	A/C	A/C	21	2333804
HAPMAP53212-RS29015272	Discovery	rs29015272	ss38326971	T/C	A/G	21	25704052
HAPMAP57137-RS29011525	Discovery	rs29011525	ss38325820	T/C	A/G	21	18454966