

Supplemental_Table_S7. Primers used to sequence wild-type *ABCA4* genomic segments in wild-type entry clones

BA_ID	Primer number	Sequence (5'-3')	Intron/Exon	Forward/Reverse	Genomic position (hg19)	cDNA position (hg19)
BA1	6148**	GTAACATCAGAGATTTTGAGACAC				
BA1	21050	GGGCTGTGTCTGCTCTGG	intron1	forward	94578702	67-80
BA1	61707	GAGTGAGACCCTGTCTCTAAAGAC	intron2	reverse	94578357	160+172
BA1	61708	TGAAGGAGGACATCAGAGGG	intron2	forward	94577250	161-115
BA1	61709	AACACTCAGTGCTCCATGCTC	intron3	reverse	94576914	302+80
BA1	61710	CTCTAGACTTAACGTGGATGAG	intron4	reverse	94573919	442+214
BA1	75340	GATCAGATCTGCTTATCAT	intron2	forward	94578441	160+89
BA1	75341	GCTATACAATCGTACTGAAG	intron2	forward	94577840	160+689
BA1	75343	TCTTCACTGTGGGCCTGC	intron3	forward	94576418	302+576
BA1	75344	CAGGACTCATATTGCTGCAAG	intron3	forward	94575723	302+1271
BA1	75345	ATGCGTGCCAATGTGTGTG	intron3	forward	94574998	303-726
BA1	75347	TGCCTGTTGACCTTCTGTGG	intron4	reverse	94573580	442+553
BA1	75348	CAGCAACCCCTGGATTTTGG	intron4	reverse	94572918	442+1215
BA1	75349	TGGAGTGTGTAATGCAGTTTG	intron4	reverse	94572203	442+1930
BA_ID	Primer number	Sequence (5'-3')	Intron/Exon	Forward/Reverse	Genomic position (hg19)	cDNA position (hg19)
BA2	6147*	TCGCGTTAACGTAGCATGGATCTC				
BA2	6148**	GTAACATCAGAGATTTTGAGACAC				
BA2	59838	CTACATTCTCCTGGCTTCCC	intron4	forward	94571237	443-2539
BA2	61708	TGAAGGAGGACATCAGAGGG	intron2	forward	94577250	161-115
BA2	75341	GCTATACAATCGTACTGAAG	intron2	forward	94577840	160+689
BA2	61709	AACACTCAGTGCTCCATGCTC	intron3	reverse	94576914	302+80
BA2	61710	CTCTAGACTTAACGTGGATGAG	intron4	reverse	94573919	442+214
BA2	61711	TGATCACGATCTCAAGTGATCC	intron5	reverse	94568418	570+153
BA2	75343	TCTTCACTGTGGGCCTGC	intron3	forward	94576418	302+576
BA2	75344	CAGGACTCATATTGCTGCAAG	intron3	forward	94575723	302+1271
BA2	75345	ATGCGTGCCAATGTGTGTG	intron3	forward	94574998	303-726
BA2	75346	AAGTGGAGAGTGGGTGATGC	intron4	forward	94573625	442+508
BA2	75347	TGCCTGTTGACCTTCTGTGG	intron4	reverse	94573580	442+553
BA2	75348	CAGCAACCCCTGGATTTTGG	intron4	reverse	94572918	442+1215

BA2	75349	TGGAGTGTTTGTAATGCAGTTTG	intron4	reverse	94572203	442+1930
BA_ID	Primer number	Sequence (5'-3')	Intron/Exon	Forward/Reverse	Genomic position (hg19)	cDNA position (hg19)
BA3	6147*	TCGCGTTAACGCTAGCATGGATCTC				
BA3	6148**	GTAACATCAGAGATTTTGAGACAC				
BA3	59838	CTACATTCTCCTGGCTTCCC	intron4	forward	94571237	443-2539
BA3	59839	CAAATATCTTGCTGGGGAGAA	intron4	reverse	94570890	443-2192
BA3	61710	CTCTAGACTTAACGTGGATGAG	intron4	reverse	94573919	442+214
BA3	61711	TGATCACGATCTCAAGTGATCC	intron5	reverse	94568418	570+153
BA3	61712	ACACAAGGTATTTCCAGGTTC	intron5	forward	94564636	571-89
BA3	61713	AAGGATTGTCCAGAACACCA	intron6	reverse	94564260	768+90
BA3	68640	AATTTGCTCTGGATTAGCAA	intron5	reverse	94565200	571-653
BA3	73703	GAAGTCACTATGAGGTTACC	intron6	forward	94564166	768+184
BA3	75346	AAGTGGAGAGTGGGTGATGC	intron4	forward	94573625	442+508
BA3	75347	TGCCTGTTGACCTTCTGTGG	intron4	reverse	94573580	442+553
BA3	75348	CAGCAACCCCTGGATTTGG	intron4	reverse	94572918	442+1215
BA3	75349	TGGAGTGTTTGTAATGCAGTTTG	intron4	reverse	94572203	442+1930
BA3	75706	GGAGCAGCCCTTCTCAGAG	intron4	forward	94570338	443-1640
BA3	75707	CACTAGCAGGGTTGAGGCC	intron4	forward	94569745	443-1047
BA3	75708	AGGAGTGTCTTGGGCCTTG	intron4	forward	94569141	443-443
BA3	75709	TGGAGGGGAGGGAAGCAC	intron5	forward	94568541	570+30
BA3	75710	CAGGTCAGAAATGTGCCAGG	intron5	reverse	94567818	570+753
BA3	75711	CCCAGCTTCTCAGTGTGATG	intron5	forward	94567338	570+1233
BA3	75712	GGAGTCTGGAGGAGGATCAG	intron5	reverse	94567246	570+1325
BA3	75713	AGCTCAGATGTTGCCTCCTC	intron5	forward	94566151	571-1604
BA3	75714	GCTAAGTGTGTGGCCTTGTG	intron5	reverse	94566029	571-1482
BA_ID	Primer number	Sequence (5'-3')	Intron/Exon	Forward/Reverse	Genomic position (hg19)	cDNA position (hg19)
BA4	6147*	TCGCGTTAACGCTAGCATGGATCTC				
BA4	6148**	GTAACATCAGAGATTTTGAGACAC				
BA4	48627	CCCATCCGTAATCGAGAA	intron6	reverse	94558542	768+5808
BA4	61712	ACACAAGGTATTTCCAGGTTC	intron5	forward	94564636	571-89
BA4	61713	AAGGATTGTCCAGAACACCA	intron6	reverse	94564260	768+90
BA4	73703	GAAGTCACTATGAGGTTACC	intron6	forward	94564166	768+184

BA4	73704	GTTCTAGAACTGCATCCCAG	intron6	forward	94563755	768+595
BA4	73705	CCTGGGTGACAGAGCAAGAC	intron6	forward	94563351	768+999
BA4	73706	CAGCTTGCTCTAAAAAGCAAG	intron6	forward	94562951	768+1399
BA4	73707	GAGGCTCCCTCTCAGGTGTCC	intron6	forward	94562515	768+1835
BA4	73708	GGGCTTGCTTTCTCGGTTTC	intron6	forward	94562075	768+2275
BA4	73709	CTGAGGGTCCAAGAATTTC	intron6	forward	94561638	768+2712
BA4	73710	GAAAGGAGCATCAGGCAGGC	intron6	forward	94561175	768+3175
BA4	73711	CTTCAAACAATCCAAGGCAG	intron6	forward	94560767	768+3583
BA4	73712	CTGATTGGCCCAAGGCATGC	intron6	forward	94560372	768+3978
BA4	73713	GACTACGGGGTGGCTGGACG	intron6	forward	94559966	768+4384
BA4	75715	ACAGCTCTAGACCTGTTCCC	intron6	forward	94558917	768+5433
BA4	75716	GCTGCCTCTAGATTCCAAGC	intron6	forward	94558326	768+6024
BA4	75717	TGTTTGCCATTTTGATCTGTGAC	intron6	forward	94557129	768+7221
BA4	75718	TAACCTTCCAGGGCTCTCC	intron6	reverse	94556982	768+7368
BA4	75719	AACCTCAGCTCAAGTGTAC	intron6	forward	94556513	769-7516
BA_ID	Primer number	Sequence (5'-3')	Intron/Exon	Forward/Reverse	Genomic position (hg19)	cDNA position (hg19)
BA5	6147*	TCGCGTTAACGCTAGCATGGATCTC				
BA5	6148**	GTAACATCAGAGATTTTGAGACAC				
BA5	48627	CCCATCCGTAATCGAGAA	intron6	reverse	94558542	768+5808
BA5	73711	CTTCAAACAATCCAAGGCAG	intron6	forward	94560767	768+3583
BA5	73712	CTGATTGGCCCAAGGCATGC	intron6	forward	94560372	768+3978
BA5	73713	GACTACGGGGTGGCTGGACG	intron6	forward	94559966	768+4384
BA5	75720	TCCCCTCTCCTTTACTTCTGC	intron6	reverse	94554606	769-5609
BA5	75721	AGGCACAGAAGTTGGTTTGG	intron6	forward	94554125	769-5128
BA5	75722	CTGTGGGAGAATCTTGACAG	intron6	forward	94553515	769-4518
BA5	75723	GTGTCTGCTATTGTGCCAGG	intron6	reverse	94553383	769-4386
BA5	75724	GCTAGGCAAGGTTAATGGAATG	intron6	forward	94552890	769-3893
BA5	75725	GTGGAGGTCTGTGGAATTGTC	intron6	forward	94552299	769-3302
BA5	77115	AGGCCAGGGCTTATTTTCAT	intron6	forward	94559246	768+5104
BA5	77116	CCTCTCAAAAGAGGCTGTGC	intron6	reverse	94558402	768+5948
BA5	77117	GCATGATTCCAACGTGAGTG	intron6	forward	94555614	769-6620
BA5	77118	TGCAGACAAAAGCAACCAG	intron6	reverse	94554344	769-5347

BA5	77130	CACATTTGATCCAAAGCATCAG	intron6	forward	94557577	768+6773
BA5	77131	AGGAAAGAGACTGTGTCTGTTGAG	intron6	reverse	94556384	769-7387
BA5	77132	CTGACTGCTCCCTCCCTGTA	intron6	forward	94556473	769-7476
BA5	77133	ACTACAGGTGCCACCACAT	intron6	reverse	94555156	769-6159
BA5	77134	GCAGACGCATCACTTGAGGT	intron6	forward	94555266	769-6269
BA_ID	Primer number	Sequence (5'-3')	Intron/Exon	Forward/Reverse	Genomic position (hg19)	cDNA position (hg19)
BA6	6147*	TCGCGTTAACGCTAGCATGGATCTC				
BA6	6148**	GTAACATCAGAGATTTTGAGACAC				
BA6	71177	TCACCCATTCTCACTCTACC	intron6	reverse	94556056	769-7059
BA6	74076	CTGCTCCCTCCCTGTAAGTC	intron6	forward	94556469	769-7472
BA6	74077	CCCTACTGGCCAGAGTCAAC	intron6	reverse	94556075	769-7078
BA6	75720	TCCCTCTCCTTTACTTCTGC	intron6	reverse	94554606	769-5609
BA6	75721	AGGCACAGAAGTTGGTTTGG	intron6	forward	94554125	769-5128
BA6	75722	CTGTGGGAGAATCTGCACG	intron6	forward	94553515	769-4518
BA6	75723	GTGTCTGCTATTGTGCCAGG	intron6	reverse	94553383	769-4386
BA6	75724	GCTAGGCAAGGTTAATGGAATG	intron6	forward	94552890	769-3893
BA6	75725	GTGGAGGTCTGTGGAATTGTC	intron6	forward	94552299	769-3302
BA6	75726	CTTAGTATTTGCTCATTGACAAT	intron6	forward	94550980	769-1994
BA6	75727	CAGGACTTGGGGCTAACTTG	intron6	forward	94550496	769-1499
BA6	77109	TCAATTTCTTAAGCACAGGATCA	intron6	forward	94557388	c768+6962
BA6	77110	GCCTGGTGCTACAGCTACAAT	intron6	reverse	94556794	768+7557
BA6	77111	TCATTAAATAAGTTGTTCAAAGTCAAA	intron6	forward	94554793	769-5796
BA6	77112	CATCATGGGTTCTTCCCATC	intron6	reverse	94554586	769-5170
BA6	77113	GGGTGAGCAAGAGGCATAGA	intron6	forward	94551514	769-2517
BA_ID	Primer number	Sequence (5'-3')	Intron/Exon	Forward/Reverse	Genomic position (hg19)	cDNA position (hg19)
BA7	6147*	TCGCGTTAACGCTAGCATGGATCTC				
BA7	6148**	GTAACATCAGAGATTTTGAGACAC				
BA7	59841	TGTACTCCCAGCTATTTCGGG	intron7	reverse	94546676	859-402
BA7	61714	AGCAAGACAAGACAGATGCA	intron8	reverse	94545944	1099+90
BA7	61715	CAGCATGGAGTTGAATGAGAC	intron8	forward	94545121	1100-104
BA7	61716	CATTCCAGTGATGACTGTGGA	intron9	reverse	94544731	1239+147
BA7	61717	AGGAAGTTGGGAGATGGTGA	intron9	forward	94544441	1240-179

BA7	61718	TCCTGGGAAAAGGAAACAAG	intron10	reverse	94544081	1356+65
BA7	61719	TCCCTCTATTCTAGAGACCCATG	intron10	forward	94543644	1357-201
BA7	65005	GCAGCTGGATTAAGGATTG	intron7	forward	94546416	859-142
BA7	71173	GCTGGTAGGAGTCGGAGAAG	intron6	reverse	94549551	769-554
BA7	75728	AGTGGGCCCCCTGAAGATAG	intron11	forward	94543224	1554+22
BA7	75351	AAGCACCTGTTACATCCCA	intron7	forward	94548772	858+136
BA7	75352	TCCCTCCATTATTCGCAGCT	intron7	forward	94548206	858+702
BA7	77108	AAGTTGCCATGTCGTCAG	intron10	reverse	94543310	1490
BA_ID	Primer number	Sequence (5'-3')	Intron/Exon	Forward/Reverse	Genomic position (hg19)	cDNA position (hg19)
BA8	6147*	TCGCGTTAACGCTAGCATGGATCTC				
BA8	6148**	GTAACATCAGAGATTTTGAGACAC				
BA8	48623	TCAGATAGCCCAAGGCTGTT	intron11	reverse	94535291	1555-6418
BA8	48625	TGCTTTTTCTCTGCTGTCA	intron11	reverse	94537811	1554+5435
BA8	59842	TAGCAAAAGGTTAGGCCTGG	intron11	forward	94538044	1554+5202
BA8	59843	TGTGTTGACAGCAGAGGAAAA	intron11	reverse	94537807	1554+5439
BA8	61719	TCCCTCTATTCTAGAGACCCATG	intron10	forward	94543644	1357-201
BA8	61720	GAAACCGTTTTTCAGCATAGATAAG	intron10	reverse	94543066	1554+180
BA8	66796	TGAAGAACAAGACCAAGATCC	intron10	forward	94543511	1357-68
BA8	66797	CCCACTCATGGGGCTATC	intron11	reverse	94543209	1554+37
BA8	75729	GGCTTGACCATTATCATTGC	intron11	forward	94542603	1554+643
BA8	75730	CCTGGCCAGAGATGAAGCTG	intron11	reverse	94541913	1554+1333
BA8	75731	ATGACACAGACCCAGACCTG	intron11	reverse	94541302	1554+1944
BA8	75732	AGTGGGTGGATGGTGGTG	intron11	reverse	94539520	1554+3726
BA8	75733	ATTTGTGGGACCTGCAGTTC	intron11	forward	94539622	1554+3624
BA8	75734	AGGAAATGATGTTAGTGCCTCC	intron11	forward	94539021	1554+4225
BA8	75737	ACGCTTCTGTAAATGGAGGC	intron11	reverse	94536572	1554+6674
BA_ID	Primer number	Sequence (5'-3')	Intron/Exon	Forward/Reverse	Genomic position (hg19)	cDNA position (hg19)
BA9	6147*	TCGCGTTAACGCTAGCATGGATCTC				
BA9	6148**	GTAACATCAGAGATTTTGAGACAC				
BA9	48623	TCAGATAGCCCAAGGCTGTT	intron11	reverse	94535291	1555-6418
BA9	48624	TCACGATCCCTGATTCTC	intron11	forward	94537473	1554+5773
BA9	48625	TGCTTTTTCTCTGCTGTCA	intron11	reverse	94537811	1554+5435

BA9	75737	ACGCTTCTGTAAATGGAGGC	intron11	reverse	94536572	1554+6674
BA9	75738	ACAATAGCCAGTTCTTGCTACC	intron11	forward	94534305	1555-5431
BA9	75739	ATGGATCAGCTCAGGATGGG	intron11	forward	94533666	1555-4794
BA9	75740	GCACCTTTGAAAATGGGTCAG	intron11	forward	94533097	1555-4224
BA9	75741	AAAACACAATGCCTCAGATGC	intron11	forward	94532486	1555-3613
BA_ID	Primer number	Sequence (5'-3')	Intron/Exon	Forward/Reverse	Genomic position (hg19)	cDNA position (hg19)
BA10	6147*	TCGCGTTAACGCTAGCATGGATCTC				
BA10	6148**	GTAACATCAGAGATTTTGAGACAC				
BA10	61721	GTGTGTAGAGTTGAGTCTTTGCA	intron11	forward	94528939	1555-66
BA10	61722	TTCAAGGACTCTTTGTTGAGC	intron12	reverse	94528530	1760+138
BA10	71166	GACAAACACTGGGTGTCAGG	intron11	forward	94531757	1555-2884
BA10	71167	ACCATAGAGCTAAGGGAAATGG	intron11	reverse	94531497	1555-2624
BA10	75737	ACGCTTCTGTAAATGGAGGC	intron11	reverse	94536572	1554+6674
BA10	75738	ACAATAGCCAGTTCTTGCTACC	intron11	forward	94534305	1555-5431
BA10	75739	ATGGATCAGCTCAGGATGGG	intron11	forward	94533666	1555-4794
BA10	75740	GCACCTTTGAAAATGGGTCAG	intron11	forward	94533097	1555-4224
BA10	75741	AAAACACAATGCCTCAGATGC	intron11	forward	94532486	1555-3613
BA10	75742	TGTACAACATTGAGGTCTCCC	intron11	forward	94531903	1555-3030
BA10	75744	AGGTGAAATTGGGGAGGGAG	intron11	forward	94530704	1555-1830
BA10	75745	TCCCCAGATACCTCATGTGC	intron11	forward	94530073	1555-1200
BA10	75746	AGCATTACTTGTACAGAATTGT	intron11	forward	94529443	1555-570
BA10	77123	CCTGATTCTTGGAAGCTCA	intron11	forward	94536783	1554+6463
BA10	77124	CACATTCTGGCCACAAACAC	intron11	reverse	94535721	1555-6848
BA10	77125	ATTGGAGGCAACTTTGCTGT	intron11	forward	94535833	1555-6960
BA10	77126	AAGAGGTTTGAGCCCTCTCC	intron11	reverse	94534648	1555-5775
BA_ID	Primer number	Sequence (5'-3')	Intron/Exon	Forward/Reverse	Genomic position (hg19)	cDNA position (hg19)
BA11	6147*	TCGCGTTAACGCTAGCATGGATCTC				
BA11	6148**	GTAACATCAGAGATTTTGAGACAC				
BA11	59845	TGGTAGTGTGTCTGACCCCAT	intron13	reverse	94527479	1937+654
BA11	59846	CACTACCAAAACAGCAGCAGAG	intron13	forward	94527466	1937+667
BA11	59847	AGTTTGGCACTTCAGAAGG	intron13	reverse	94526850	1938-535
BA11	61722	TTCAAGGACTCTTTGTTGAGC	intron12	reverse	94528530	1760+138

BA11	61725	AGATGTCACGCTCTCCTTG	intron14	reverse	94525998	2160+95
BA11	61726	AAGGAACTCAGCACATGGAGT	intron14	forward	94522514	2161-136
BA11	65008	GTCAGAGCTCCATGCTCTCC	intron13	reverse	94528003	1937+130
BA11	74185	CTGCACTGACTCATCTGTGC	intron13	reverse	94527951	1937+182
BA11	75356	TCCCCATTCAACTCTAGCCA	intron14	reverse	94525701	2160+392
BA11	75357	TGGCTTAACTGGAGATGTGTTG	intron14	reverse	94525089	2160+1004
BA11	75359	CACCAGGAGTTTCATGCACA	intron14	forward	94524603	2160+1490
BA11	75358	GAGACAAGGGAAAGGTGGGA	intron14	reverse	94524490	2160+1604
BA_ID	Primer number	Sequence (5'-3')	Intron/Exon	Forward/Reverse	Genomic position (hg19)	cDNA position (hg19)
BA12	6147*	TCGCGTTAACGCTAGCATGGATCTC				
BA12	59844	GCTCTGACTGAGGAACCTGC	intron13	forward	94527991	1937+142
BA12	59846	CACTACCAAAACAGCAGCAGAG	intron13	forward	94527466	1937+667
BA12	59847	AGTTTGGCACTTTCAGAAGG	intron13	reverse	94526850	1938-535
BA12	61723	CAGAGTCACATTGTGGCTAATATT	intron12	forward	94528497	1760+171
BA12	61725	AGATGTCACGCTCTCCTTG	intron14	reverse	94525998	2160+95
BA12	61726	AAGGAACTCAGCACATGGAGT	intron14	forward	94522514	2161-136
BA12	61727	TGGAAGGGGTAGTCTTTCTGG	intron16	forward	94517426	2588-172
BA12	75355	CCATCTGGGCTTTGTTCTCA	intron13	forward	94526417	1938-102
BA12	75356	TCCCCATTCAACTCTAGCCA	intron14	reverse	94525701	2160+392
BA12	75357	TGGCTTAACTGGAGATGTGTTG	intron14	reverse	94525089	2160+1004
BA12	75358	CACCAGGAGTTTCATGCACA	intron14	forward	94524603	2160+1490
BA12	75359	GAGACAAGGGAAAGGTGGGA	intron14	reverse	94524490	2160+1604
BA12	75360	GAGGTGGAGGTCTCAGTGAG	intron14	forward	94524008	2161-1630
BA12	75361	CGTGTTCAAGAGTAAAGTGCC	intron14	forward	94523423	2161-1045
BA12	75362	GATCACAAAGTGGTTCAGGGC	intron14	forward	94522800	2161-422
BA12	75363	AAGCTGACTTCTGATGGCCT	intron15	forward	94521623	2382+534
BA12	75364	CCCTCTGAGCTGACCTTAC	intron15	forward	94521009	2383-138
BA12	75365	CCACCTCCCATCAGTCCATT	intron16	forward	94520420	2587+247
BA12	75366	GTCCCACTGCCAGAATAGT	intron16	forward	94519798	2587+869
BA12	75367	TCCTGCTGATCCTTCGTCTG	intron16	forward	94519196	2587+1471
BA12	75368	ACCCAAAAGCTCTCCAAATCT	intron16	forward	94518632	2588-1378
BA12	75369	TAAAGATCCAGACCTGCCCC	intron16	forward	94518025	2588-771

BA_ID	Primer number	Sequence (5'-3')	Intron/Exon	Forward/Reverse	Genomic position (hg19)	cDNA position (hg19)
BA13	6147*	TCGCGTTAACGCTAGCATGGATCTC				
BA13	6148**	GTAACATCAGAGATTTTGAGACAC				
BA13	61728	GTCCACAGAGAGAGTCAGTTTCC	intron18	reverse	94514320	2743+104
BA13	75364	CCCTCCTGAGCTGACCTTAC	intron15	forward	94521009	2383-138
BA13	75366	GTCCCACTGCCAGAATAGT	intron16	forward	94519798	2587+869
BA13	75365	TCCTGCTGATCCTTCGTCTG	intron16	forward	94519196	2587+1471
BA13	75367	TCCTGCTGATCCTTCGTCTG	intron16	forward	94519196	2587+1471
BA13	75368	ACCCAAAAGCTCTCAAATCT	intron16	forward	94518632	2588-1378
BA13	75369	TAAAGATCCAGACCTGCCCC	intron16	forward	94518025	2588-771
BA_ID	Primer number	Sequence (5'-3')	Intron/Exon	Forward/Reverse	Genomic position (hg19)	cDNA position (hg19)
BA14	6147*	TCGCGTTAACGCTAGCATGGATCTC				
BA14	6148**	GTAACATCAGAGATTTTGAGACAC				
BA14	59848	GGGTTAGTGGTCGTTCTGGA	intron19	forward	94511645	2918+830
BA14	59849	ACACTGAACCGCCCTAGAGA	intron19	reverse	94511327	2919-1027
BA14	61727	TGGAAGGGGTAGTCTTTCTGG	intron16	forward	94517426	2588-172
BA14	61728	GTCCACAGAGAGAGTCAGTTTCC	intron18	reverse	94514320	2743+104
BA14	61729	GCAGGTGACGTTATAGGCAG	intron18	forward	94512751	2744-102
BA14	75747	TGCATTCATCTCCCATTGCC	intron17	forward	94516829	2653+360
BA14	75748	GCACATTTTCAGAGGGTGGG	intron17	forward	94515646	2654-1133
BA14	75749	AGGAGGAAACCACTGTCACC	intron17	reverse	94515538	2654-1025
BA14	75750	GTTTCACCATGTTGGTCAGACT	intron17	forward	94515005	2654-492
BA14	75751	GCTCTAAGCACTGCAGAGGGC	intron18	forward	94514381	2743+43
BA14	75752	CAGGCAGCACAGCCCTGGGC	intron18	forward	94513771	2743+653
BA14	77121	GGAGGAAGAAGGAGGGGAGT	intron18	forward	94513362	2744-713
BA14	77122	GATGTTCAACGGTCCACAG	intron18	reverse	94512541	2853
BA_ID	Primer number	Sequence (5'-3')	Intron/Exon	Forward/Reverse	Genomic position (hg19)	cDNA position (hg19)
BA15	6147*	TCGCGTTAACGCTAGCATGGATCTC				
BA15	6148**	GTAACATCAGAGATTTTGAGACAC				
BA15	48620	TTGGCAATCAAGATGCTCAC	intron20	forward	94509145	3051-114
BA15	48621	ACCGCTGAGTTATAACATTGGT	intron20	reverse	94509472	3051-441

BA15	59848	GGGTTAGTGGTCGTTCTGGA	intron19	forward	94511645	2918+830
BA15	59849	AACTGAACCGCCCTAGAGA	intron19	reverse	94511327	2919-1027
BA15	61729	GCAGGTGACGTTATAGGCAG	intron18	forward	94512751	2744-102
BA15	61730	AGCAGGGTCTGCTATTTTGT	intron20	forward	94509189	3051-158
BA15	61731	ACTTCACAGAGGTGTTCCAC	intron21	reverse	94508790	3190+102
BA15	61732	AAATGGCAGGTGAGAGAGTG	intron22	reverse	94508256	3328+61
BA15	75370	TCCCAAGGAGCAGCAGAC	intron19	forward	94511446	2918+1029
BA15	75371	CCAAAGCTAATATTGGTGGTGGT	intron19	forward	94510838	2919-538
BA15	75372	GGGACATTGAAACCAGCCTG	exon20	forward	94510244	2975
BA15	77070	AGCAGGGATAGATGGGAGGT	intron18	forward	94513431	2744-782
BA15	77071	ACCAGATTCTTCACGCATACC	intron18	reverse	94512589	2804
BA_ID	Primer number	Sequence (5'-3')	Intron/Exon	Forward/Reverse	Genomic position (hg19)	cDNA position (hg19)
BA16	6147*	TCGCGTTAACGCTAGCATGGATCTC				
BA16	6148**	GTAACATCAGAGATTTTGAGACAC				
BA16	61731	ACTTCACAGAGGTGTTCCAC	intron21	reverse	94508790	3190+102
BA16	61732	AAATGGCAGGTGAGAGAGTG	intron22	reverse	94508256	3328+61
BA16	61733	CTTTGGGAATGAAGGAAGAAG	intron24	reverse	94505436	3607+163
BA16	77119	ACCCTTACTCGAGACGCTCA	intron22	forward	94508367	3278
BA16	77120	GTCCATGTGGTGAGTGACA	intron22	reverse	94506924	3363
BA16	75373	TCTATGTTGCACAAACCGC	intron23	reverse	94506512	3522+253
BA16	75374	GGTTTAAGTGCTGGCTGCC	intron23	forward	94506040	3523-358
BA16	75375	TCCTTCTTCCTTCATTCCCAAAG	intron24	forward	94505438	3607+161
BA_ID	Primer number	Sequence (5'-3')	Intron/Exon	Forward/Reverse	Genomic position (hg19)	cDNA position (hg19)
BA17	6147*	TCGCGTTAACGCTAGCATGGATCTC				
BA17	6148**	GTAACATCAGAGATTTTGAGACAC				
BA17	61733	CTTTGGGAATGAAGGAAGAAG	intron24	reverse	94505436	3607+163
BA17	61734	TGCCGAGATACAAAATACCTC	intron24	forward	94503029	3608-123
BA17	61735	GATAGTTGCTATGCTTGGGTG	intron25	reverse	94502592	3813+109
BA17	61736	GTCGTAATGGATTTTCTTCCC	intron25	forward	94502461	3814-117
BA17	73671	TGTGACCCACCAACATAAC	intron24	forward	94503260	3608-354
BA17	75373	TCTATGTTGCACAAACCGC	intron23	reverse	94506512	3522+253
BA17	75374	GGTTTAAGTGCTGGCTGCC	intron23	forward	94506040	3523-358

BA17	75375	TCCTTCTTCCTTCATTCCCAAAG	intron24	forward	94505438	3607+161
BA17	77072	AGAATCGGGATGCTGTGAAT	intron24	forward	94504495	3607+1104
BA17	77073	TGGTCTGTCACCAGCTATGG	intron24	reverse	94503499	3608-593
BA_ID	Primer number	Sequence (5'-3')	Intron/Exon	Forward/Reverse	Genomic position (hg19)	cDNA position (hg19)
BA18	6148**	GTAACATCAGAGATTTTGAGACAC				
BA18	48618	CCATGTTGATCCCTTCGTTT	intron26	forward	94499957	3862+2339
BA18	48619	GGAAGCTGAGCTCACAGAGG	intron26	forward	94500291	3862+2005
BA18	61734	TGCCGAGATACAAAATACCTC	intron24	forward	94503029	3608-123
BA18	61735	GATAGTTGCTATGCTTGGGTG	intron25	reverse	94502592	3813+109
BA18	61736	GTCGTAATGGATTTTCTTCCC	intron25	forward	94502461	3814-117
BA18	73671	TGTGACCCACCAACATAAC	intron24	forward	94503260	3608-354
BA18	73672	TCAAGCTGGTCTCAAATGCTC	intron26	forward	94498003	3863-404
BA18	75378	TGGGCTTTGAAAACATGGGG	intron26	forward	94501532	3862+764
BA18	75379	GGCTCTCCATGTCCAGCAAT	intron26	forward	94499161	3863-1562
BA18	75380	GAAAGAACCACATCGACTCTGA	intron26	forward	94498538	3863-939
BA_ID	Primer number	Sequence (5'-3')	Intron/Exon	Forward/Reverse	Genomic position (hg19)	cDNA position (hg19)
BA19	6147*	TCGCGTTAACGCTAGCATGGATCTC				
BA19	48618	CCATGTTGATCCCTTCGTTT	intron26	forward	94499957	3862+2339
BA19	48619	GGAAGCTGAGCTCACAGAGG	intron26	forward	94500291	3862+2005
BA19	61736	GTCGTAATGGATTTTCTTCCC	intron25	forward	94502461	3814-117
BA19	61737	ACCCTGCTTATTATGTTCCCC	intron27	forward	94496836	4129-160
BA19	61738	CAGTGAAGTGGGAAGGTCAG	intron28	reverse	94496478	4253+74
BA19	61739	GCAGCTATCCAGTAAAGGCTC	intron28	forward	94496164	4254-82
BA19	61740	AGTGCTGGTCAGAGACATGG	intron29	reverse	94495866	4352+118
BA19	73672	TCAAGCTGGTCTCAAATGCTC	intron26	forward	94498003	3863-404
BA19	73673	AGTTAGCGAAGGCCATTGAC	intron29	forward	94495589	4352+395
BA19	75378	TGGGCTTTGAAAACATGGGG	intron26	forward	94501532	3862+764
BA19	75379	GGCTCTCCATGTCCAGCAAT	intron26	forward	94499161	3863-1562
BA19	75380	GAAAGAACCACATCGACTCTGA	intron26	forward	94498538	3863-939
BA_ID	Primer number	Sequence (5'-3')	Intron/Exon	Forward/Reverse	Genomic position (hg19)	cDNA position (hg19)
BA20	6147*	TCGCGTTAACGCTAGCATGGATCTC				

BA20	6148**	GTAACATCAGAGATTTTGAGACAC				
BA20	61738	CAGTGAAGTGGGAAGGTCAG	intron28	reverse	94496478	4253+74
BA20	61739	GCAGCTATCCAGTAAAGGCTC	intron28	forward	94496164	4254-82
BA20	61740	AGTGCTGGTCAGAGACATGG	intron29	reverse	94495866	4352+118
BA20	61742	TTTTGGAAGACAACAAGCAG	intron30	forward	94490689	4540-85
BA20	73673	AGTTAGCGAAGGCCATTGAC	intron29	forward	94495589	4352+395
BA20	74411	CTCTTGAGGCTGGTTTCTG	intron29	reverse	94495329	4353-142
BA20	74412	GTTTGCAGCCACCCAAAC	intron30	forward	94494633	4539+368
BA20	74413	GTTGAACTCCTGGCCTCAAG	intron30	forward	94494263	4539+738
BA20	74414	GTGTCCGTGGTTGATAATGG	intron30	forward	94493859	4539+1142
BA20	74415	AAAAGTCTACGTGGGTGGTG	intron30	forward	94493512	4539+1489
BA20	74416	TGTTCTCATCTGGGAAATGG	intron30	forward	94492367	4540-1763
BA20	74417	AGCCCAGTCAGTCAAGTC	intron30	forward	94492018	4540-1414
BA20	74418	ATGTGTTCCAGATTGCGAG	intron30	forward	94491642	4540-1038
BA20	74419	CTGGAACCAGGAACATTTCTCC	intron30	forward	94491271	4540-667
BA_ID	Primer number	Sequence (5'-3')	Intron/Exon	Forward/Reverse	Genomic position (hg19)	cDNA position (hg19)
BA21	61740	AGTGCTGGTCAGAGACATGG	intron29	reverse	94495866	4352+118
BA21	61741	CACACCTAGTCAGTCACAAAAC	intron29	forward	94495373	4353-186
BA21	61742	TTTTGGAAGACAACAAGCAG	intron30	forward	94490689	4540-85
BA21	61744	CAAAATGAATGTTGGGAAAG	intron31	forward	94489055	4635-81
BA21	61745	GTGTCTTCTGAGTCTGGGATGT	intron32	reverse	94488784	4667+158
BA21	73673	AGTTAGCGAAGGCCATTGAC	intron29	forward	94495589	4352+395
BA21	74411	CTCTTGAGGCTGGTTTCTG	intron29	reverse	94495329	4353-142
BA21	74412	GTTTGCAGCCACCCAAAC	intron30	forward	94494633	4539+368
BA21	74413	GTTGAACTCCTGGCCTCAAG	intron30	forward	94494263	4539+738
BA21	74414	GTGTCCGTGGTTGATAATGG	intron30	forward	94493859	4539+1142
BA21	74415	AAAAGTCTACGTGGGTGGTG	intron30	forward	94493512	4539+1489
BA21	74416	TGTTCTCATCTGGGAAATGG	intron30	forward	94492367	4540-1763
BA21	74417	AGCCCAGTCAGTCAAGTC	intron30	forward	94492018	4540-1414
BA21	74419	CTGGAACCAGGAACATTTCTCC	intron30	forward	94491271	4540-667
BA21	74418	ATGTGTTCCAGATTGCGAG	intron30	forward	94491642	4540-1038
BA21	75381	CAAGTTTGCAGCCAGTCAG	intron30	forward	94492027	4540-1423

BA_ID	Primer number	Sequence (5'-3')	Intron/Exon	Forward/Reverse	Genomic position (hg19)	cDNA position (hg19)
BA22	6147*	TCGCGTTAACGCTAGCATGGATCTC				
BA22	6148**	GTAACATCAGAGATTTTGAGACAC				
BA22	61742	TTTTGGAAGACAACAAGCAG	intron30	forward	94490689	4540-85
BA22	61744	CAAAATGAATGTTTGGGAAAG	intron31	forward	94489055	4635-81
BA22	61745	GTGTCTTCTGAGTCTGGGATGT	intron32	reverse	94488784	4667+158
BA22	61746	CAGCAGTGGGAAAAGAGT	intron32	forward	94487673	4668-166
BA22	61747	ATCCCTCCTCCTGCTGAAA	intron34	forward	94487106	4848+90
BA22	61748	CATCCAAATCAGCACTTCG	intron35	reverse	94486713	5018+83
BA22	75870	GCAAATTCTGGGTCAATGAAC	exon32	forward	94488966	4643
BA22	76265	AGGTCGCTTAAAAACCCAAC	exon33	reverse	94487427	4748
BA_ID	Primer number	Sequence (5'-3')	Intron/Exon	Forward/Reverse	Genomic position (hg19)	cDNA position (hg19)
BA23	6147*	TCGCGTTAACGCTAGCATGGATCTC				
BA23	6148**	GTAACATCAGAGATTTTGAGACAC				
BA23	59852	GCTCTCCAAAACCAACTCCA	intron36	forward	94482235	5197-825
BA23	59872	CTATCTTACTCAGCTTAGTAAGCAGC	intron36	forward	94484098	5196+1040
BA23	61744	CAAAATGAATGTTTGGGAAAG	intron31	forward	94489055	4635-81
BA23	61745	GTGTCTTCTGAGTCTGGGATGT	intron32	reverse	94488784	4667+158
BA23	61746	CAGCAGTGGGAAAAGAGT	intron32	forward	94487673	4668-166
BA23	61747	ATCCCTCCTCCTGCTGAAA	intron34	forward	94487106	4848+90
BA23	61748	CATCCAAATCAGCACTTCG	intron35	reverse	94486713	5018+83
BA23	61749	GTGTAAGGCCTTCCCAAAG	intron35	forward	94485410	5019-95
BA23	61750	AGAGTGAGAGACCAGGCAG	intron36	forward	94481679	5197-269
BA23	68611	ATCTTCATCGGGTTTCAGAAG	intron37	forward	94481374	5233
BA23	76818	CCTTGGCTCCTTGGTGTCT	intron36	forward	94486153	5018+643
BA23	76819	CGATGAAGAGGGAAGAGCAG	intron37	reverse	94485347	5019-32
BA23	77074	CTTCCAGGGCAGTACAGGAG	intron32	forward	94488151	4668-644
BA23	77075	TCGGGTTTTGTAGGGAAACA	intron32	reverse	94487571	4668-64
BA23	77076	CAAATCCAAGCACCTCCAGT	intron36	forward	94485213	5121
BA23	77077	CTCCCGTGCATTTATGAGT	intron36	reverse	94483974	5196+1164
BA23	77078	TTTGGAACCTAGGACCACCA	intron36	forward	94483554	5196+1584
BA23	77079	AGGGTATCAGAGCCAGAGCA	intron36	reverse	94481992	5197-581

BA_ID	Primer number	Sequence (5'-3')	Intron/Exon	Forward/Reverse	Genomic position (hg19)	cDNA position (hg19)
BA24	6147*	TCGCGTTAACGCTAGCATGGATCTC				
BA24	6148**	GTAACATCAGAGATTTTGAGACAC				
BA24	61750	AGAGTGAGAGACCAGGCAG	intron36	forward	94481679	5197-269
BA24	68613	CTACTCAAAGTCTGAGGCCTTGAC	intron37	forward	94481039	5312+256
BA24	68136	CCTCATTAGCTCTCCAGTTC	intron38	forward	94479059	5460+1040
BA24	61754	CTGCAAGGACTCTCTGTCTG	intron38	forward	94477067	5461-126
BA_ID	Primer number	Sequence (5'-3')	Intron/Exon	Forward/Reverse	Genomic position (hg19)	cDNA position (hg19)
BA25	6147*	TCGCGTTAACGCTAGCATGGATCTC				
BA25	6148**	GTAACATCAGAGATTTTGAGACAC				
BA25	59852	GCTCTCCAAACCAACTCCA	intron36	forward	94482235	5197-825
BA25	61750	AGAGTGAGAGACCAGGCAG	intron36	forward	94481679	5197-269
BA25	61752	GTTACACACATCACCTCAGG	intron37	forward	94480354	5313-108
BA25	61754	CTGCAAGGACTCTCTGTCTG	intron38	forward	94477067	5461-126
BA25	61755	CAACAAGGTCCCTCCTAG	intron39	reverse	94476719	5584+99
BA25	61756	CTCCTGAGGAAAGAAATGACC	intron40	reverse	94476286	5714+70
BA25	68611	ATCTTCATCGGGTTTCAGAAG	exon37	forward	94481374	5233
BA25	68613	CTACTCAAAGTCTGAGGCCTTGAC	intron37	forward	94481039	5312+256
BA25	68617	CTGATTGGGAAGAACCTGTTT	exon40	forward	94476450	5620
BA25	68619	CAATGGTTACAGGGTATCCAAA	intron40	forward	94476048	5714+308
BA25	68621	AGATTCCAAGGACTTGGTTTTAT	intron40	forward	94475623	5714+733
BA25	68128	CACAGCCTATGTGGCTTTATC	exon38	forward	94480192	5367
BA25	68132	TGTTGGGTTTTACACACACAC	intron38	forward	94479598	5460+501
BA25	68136	CCTCATTAGCTCTCCAGTTC	intron38	forward	94479059	5460+1040
BA25	68140	GGTGTGTGCTGATATAACAAGC	intron38	forward	94478424	5461-1483
BA25	68144	AGGGAAGGATGAGGTAATGTG	intron38	forward	94477772	5461-831
BA_ID	Primer number	Sequence (5'-3')	Intron/Exon	Forward/Reverse	Genomic position (hg19)	cDNA position (hg19)
BA26	6147*	TCGCGTTAACGCTAGCATGGATCTC				
BA26	6148**	GTAACATCAGAGATTTTGAGACAC				
BA26	61752	GTTACACACATCACCTCAGG	intron37	forward	94480354	5313-108
BA26	61753	TAGGGAGGAAGAAAGTGGCA	intron38	reverse	94479986	5460+113

BA26	61754	CTGCAAGGACTCTCTGTCTG	intron38	forward	94477067	5461-126
BA26	61755	CAACAAGGTCCCTCCTAG	intron39	reverse	94476719	5584+99
BA26	61756	CTCCTGAGGAAAGAAATGACC	intron40	reverse	94476286	5714+70
BA26	65516	CCATCCTTTGCTCTTTGTTCC	intron41	forward	94473936	5836-83
BA26	68614	CTGCAACACCTCCCACTCTA	intron37	reverse	94480561	5313-315
BA26	68615	TGGGAACCAACCTGACTATAAG	intron37	forward	94480647	5313-400
BA26	68617	CTGATTGGGAAGAACCTGTTT	exon40	forward	94476450	5620
BA26	68619	CAATGGTTACAGGGTATCCAAA	intron40	forward	94476048	5714+308
BA26	68621	AGATTCCAAGGACTTGGTTTTAT	intron40	forward	94475623	5714+733
BA26	68623	AGGGAGGGTTTCAAAGAAGAG	intron40	forward	94475229	5715-802
BA26	68625	CTTGCTGTAGAGGAAGCATTTT	intron40	forward	94474840	5715-413
BA26	68129	GAAGGAAGAAAGAAGGAAGGA	intron38	reverse	94479762	5460+337
BA26	68128	CACAGCCTATGTGGCTTTATC	exon38	forward	94480192	5367
BA26	68132	TGTTGGGTTTACACACACAC	intron38	forward	94479598	5460+501
BA26	68136	CCTCATTAGCTCTTCCCAGTTC	intron38	forward	94479059	5460+1040
BA26	68140	GGTGTGTGCTGATATAACAAGC	intron38	forward	94478424	5461-1483
BA26	68144	AGGGAAGGATGAGGTAATGTG	intron38	forward	94477772	5461-831
BA_ID	Primer number	Sequence (5'-3')	Intron/Exon	Forward/Reverse	Genomic position (hg19)	cDNA position (hg19)
BA27	61754	CTGCAAGGACTCTCTGTCTG	intron38	forward	94477067	5461-126
BA27	61755	CAACAAGGTCCCTCCTAG	intron39	reverse	94476719	5584+99
BA27	61756	CTCCTGAGGAAAGAAATGACC	intron40	reverse	94476286	5714+70
BA27	61758	ACTGGGACTTAGATGTGTTTC	intron42	forward	94473468	5899-172
BA27	65516	CCATCCTTTGCTCTTTGTTCC	intron41	forward	94473936	5836-83
BA27	68617	CTGATTGGGAAGAACCTGTTT	exon40	forward	94476450	5620
BA27	68619	CAATGGTTACAGGGTATCCAAA	intron40	forward	94476048	5714+308
BA27	68621	AGATTCCAAGGACTTGGTTTTAT	intron40	forward	94475623	5714+733
BA27	68625	CTTGCTGTAGAGGAAGCATTTT	intron40	forward	94474840	5715-413
BA27	71168	ACCCTACTTGCTTCCCTGAG	intron43	forward	94471880	6006-742
BA27	71170	ACTGGCTCCTCTTTCATTGC	intron43	forward	94471581	6006-443
BA27	75224	GCCAGACCAAGGAGCATAGA	intron43	forward	94472624	6005+566
BA27	75225	AGTGAGTTGGGTTCACCAA	intron43	reverse	94471626	6006-488
BA_ID	Primer number	Sequence (5'-3')	Intron/Exon	Forward/Reverse	Genomic position (hg19)	cDNA position (hg19)

BA28	6147*	TCGCGTTAACGCTAGCATGGATCTC				
BA28	6148**	GTAACATCAGAGATTTTGAGACAC				
BA28	61761	GATTTCAAGGTGTGAGCCACCA	intron47	forward	94463794	6480-128
BA28	75756	AGTGAGCTGTGATCAAGCC	Intron44	forward	94469266	6148**-1718
BA28	75758	TGCATAATCCTGATGCACCC	Intron47	forward	94465638	6479+754
BA28	71168	ACCCTACTTGCTTCCTGAG	intron43	forward	94471880	6006-742
BA_ID	Primer number	Sequence (5'-3')	Intron/Exon	Forward/Reverse	Genomic position (hg19)	cDNA position (hg19)
BA29	6147*	TCGCGTTAACGCTAGCATGGATCTC				
BA29	6148**	GTAACATCAGAGATTTTGAGACAC				
BA29	59859	CCCAATAAACAGAGGGCAAG	intron48	reverse	94463305	6729+112
BA29	61759	CTTCTGTCAGCTCATCCTCCA	intron45	forward	94466764	6283-103
BA29	61760	CTCTTCCAAGTGTCATGGAG	intron47	reverse	94466330	6479+62
BA29	61761	GATTTCAAGGTGTGAGCCACCA	intron47	forward	94463794	6480-128
BA29	61762	GAATCAATGAAGTTTCTGATGA	intron48	reverse	94463239	6729+178
BA29	75757	CTCATTCTCCAGCAGCAGATG	intron47	forward	94466261	6479+131
BA29	75758	TGCATAATCCTGATGCACCC	intron47	forward	94465638	6479+754
BA29	75759	AGCAGCTCCATTGTTTCAGG	intron47	forward	94465064	6479+1328
BA29	75760	GCCTGTAGTTCCAGCCTCTC	intron47	forward	94464439	6480-773
	Primer number	Sequence (5'-3')	Intron/Exon	Forward/Reverse	Genomic position (hg19)	cDNA position (hg19)
MG30	6147*	TCGCGTTAACGCTAGCATGGATCTC				
MG30	61761	GATTTCAAGGTGTGAGCCACCA	intron47	forward	94463794	6480-128
	Primer number	Sequence (5'-3')	Intron/Exon	Forward/Reverse	Genomic position (hg19)	cDNA position (hg19)
MG31	2105	AAGCCCAGTGAACCAGCTGG	intron49	reverse	94461591	6816+74
MG31	6147*	TCGCGTTAACGCTAGCATGGATCTC				
MG31	6148**	GTAACATCAGAGATTTTGAGACAC				
MG31	71995	CCGTGTTGTATCATGTGCCAG	intron48	forward	94462397	6730-646
MG31	71996	TGGTGTGCTCCTTACATGGG	intron49	reverse	94461031	6816+634

*= entry clone forward primer; **= entry clone reverse primer