



List of SNPs by ISAG

SNP Name (iSelect)	SNP Name (BovineSNP50)	Sequence	Btau 4.0 from Baylor Build			University of Maryland August		
			Genome Build Version	Chr	Coordinate	Genome Build Version	Chr	Coordinate
ARS-USMARC-Parent-AY761135-rs29003723	ARS-USMARC-Parent-AY761135-rs29003723	TTCTTTATTACGCTCCTCTGAAGAAGGAA AAACGATTTCTCTTATTCATGAGAAGGTA AG[A/T]GTCTTGGGTCCCCTGAACCTCCTA GCTCCACTGCAATGATTCTCAAACCTTAAT TGCAAG	4	1	128561273		1	127426647
ARS-USMARC-Parent-AY776154-no-rs	ARS-USMARC-Parent-AY776154-no-rs	taagtacataagtacatatctactggcctttgatctgac tagttccccagtctcaggtct[A/G]tttctgttaatc accagtgagagaaggtcctaccctatcctaagtggttc tcatRtctc	4	2	21560142		2	26997623
ARS-USMARC-Parent-AY842472-rs29001941	ARS-USMARC-Parent-AY842472-rs29001941	tctattaactaactgtatattcttctgctcagatgtc tagagcacctgttccatat[C/G]tgtaaacYgagt tgggagctgagactgtgactgaggaggaaggcagR agactattgct	4	3	43155987		3	40399136
ARS-USMARC-Parent-AY842473-rs29001956	ARS-USMARC-Parent-AY842473-rs29001956	cactgagttcagagagggccagaactcttctgtccac aaggtctggctccatcctggtg[A/G]ggtgggcaga gaacctgagttcttgagttagctccaagacctatggca tcaagtggcatg	4	3	52858297		3	49703647
ARS-USMARC-Parent-AY842474-rs29003226	ARS-USMARC-Parent-AY842474-rs29003226	aaacaagatagctttgtcttcaatttaggtcaaggt acaattggaccatgaYtgagaa[C/G]tttagaggag ggagagacaatatccatgtgcagtggtgaagctgcag caggtgaaatgca	4	3	50318221		3	51976646
ARS-USMARC-Parent-AY842475-rs29002127	ARS-USMARC-Parent-AY842475-rs29002127	aaggtattatgagttgtgtgggttttaaaagcttgc ctctaagctgtatgtgtgagc[A/G]tgtgWgttaga tttaataacatctctgataaagctcagattaggtaaga ggatgtatcag	4	4	298879		4	20181749



ARS-USMARC-Parent-AY844963-rs17871338	ARS-USMARC-Parent-AY844963-rs17871338	acagactctttagatgttttaaatctgttttccttctgt agatgttaactggtaacca[A/G]tgtacaaaagggt tggatctcaccttcaggatctgaaatttacagttat tgtccggt	4	5	64666892	5	98102349
ARS-USMARC-Parent-AY849381-rs29003287	ARS-USMARC-Parent-AY849381-rs29003287	tgggaaacctatgagccagagtttacctctgatgatt tgctggcacaaggtagctgtg[A/G]gagaaccagg tgccctgagccagtgtcacctccatcctgaccctgaaa ggggctgagggga	4	6	13138268	6	23562312
ARS-USMARC-Parent-AY850194-no-rs	ARS-USMARC-Parent-AY850194-no-rs	ctggccaaactcatcacactcattgtgtcaatcatag aggaagataagaattcctacac[T/C]ctcgttctgaa ccagtaagtatcacctcacttggcYtttctgtttgggtg ttggttctc	4	8	32577724	8	59996431
ARS-USMARC-Parent-AY851162-no-rs	ARS-USMARC-Parent-AY851162-no-rs	gaaacctctctccctaaagaaagccatacccagggga gtccacKtgggctgaataacccc[A/G]aggactggc agaaggggaaggaagaatgtagctgcagcctgaact tcactgttctctKat	4	11	32873366	11	46411100
ARS-USMARC-Parent-AY851163-rs17871661	ARS-USMARC-Parent-AY851163-rs17871661	ccgaggccgcaccgctggcctccctgccccgtgaga gggggaggcaggaacatccatc[T/C]ggaagtag ccgctctccaagtctggaatcaggaggagctcagta aatgctggtggaatg	4	0	0	11	103047474
ARS-USMARC-Parent-AY853302-no-rs	ARS-USMARC-Parent-AY853302-no-rs	ctttctatgtggcttctgtattcccttgggtgctaatgt cagaaactataactatcta[A/G]ttcacactaggttc tctataaattatttgcgaacaaaatatttctcttttga aaataa	4	13	29637300	13	47397987
ARS-USMARC-Parent-AY853303-no-rs	ARS-USMARC-Parent-AY853303-no-rs	gggagtggagagtggattgggaagcctggggaactgt ggacctgtgggcaatcccttagc[T/C]tttctgagcct cagtttctcatctgtacaaaaggggcaatcataccM atctcacagtca	4	13	54843495	13	75383374

ARS-USMARC-Parent-AY856094-rs17871190	ARS-USMARC-Parent-AY856094-rs17871190	agctaattctcttgacttgaggcggagactgaggctc aacaagggggcttcagcaaccc[A/G]tggagatgc agctctttcccctcacatccaattcagtgcttttattgag ttattgacttt	4	29	6514423		29	9160939
ARS-USMARC-Parent-AY858890-rs29002256	ARS-USMARC-Parent-AY858890-rs29002256	tatattccaattaacatactctagaatggttgtaaagt ttacccttttactaatagcat[C/G]tgcttttctacgtc cttaccaacactggttattataaatcttttcttgataga ttgaga	4	17	19983637		17	29936157
ARS-USMARC-Parent-AY860426-no-rs	ARS-USMARC-Parent-AY860426-no-rs	ccagattcaatcgactgggttcattgtcccctcacatagt ttttaaggtattttatataaa[T/G]gtctaattgatttt attgtaacagacattgttttccaacattgcctatttca gtggcac	4	17	34818241		17	56512519
ARS-USMARC-Parent-AY863214-rs17871744	ARS-USMARC-Parent-AY863214-rs17871744	gggtctggggcctgggttcttgggtccagaggatga agtggcaggggacgccgattctt[T/C]ggccaag agaggaagggcctgagcttgctgaaggaggagact gggacctcaatttct	4	18	37564714		18	46647177
ARS-USMARC-Parent-AY914316-rs17871403	ARS-USMARC-Parent-AY914316-rs17871403	ttRgtcacttcttcatccatgggaggagaggagagct cttctcagattgcctgatttcc[T/G]attcctttcatcc tcagccggctctcccagacaaggagagcatgcttgat gcggctttc	4	18	44145110		18	48812014
ARS-USMARC-Parent-AY916666-no-rs	ARS-USMARC-Parent-AY916666-no-rs	cctgagtcctgccagccgggactgcctggatctgag aggtgggacaaggaggtggctt[A/G]gccgaggtc accggctcgcaagtctgagctctgggaaaggcaagt gtcccgttgaMtK	4	19	37367050		19	44799390
ARS-USMARC-Parent-AY919868-rs29002211	ARS-USMARC-Parent-AY919868-rs29002211	tgcaagatctgaaggaattgaaaatgtctaccattat atgaaaagtattgtttaaactg[A/G]aaggatacatt tttaacctgaaaagctttcagacagttaatcgctaatt gtagaagttc	4	20	31525850		20	46066109

ARS-USMARC-Parent-AY929334-no-rs	ARS-USMARC-Parent-AY929334-no-rs	gccccaccctcaggcctctgttgctccctggcccca ctctcaaaatctgagacttga[T/C]tcaacccttttct ttcccaggagggtctagatctcctcagattcctcaaca gcctcttc	4	23	8790333		23	7219975
ARS-USMARC-Parent-AY937242-rs17872223	ARS-USMARC-Parent-AY937242-rs17872223	ttctaggttctgtgaatacagttRtgaacaaaacagag caaaaatccttgccttcatggg[A/G]tagggaatgg ggagacagacaatatacataataaactaaatgta tttttgtgtaa	4	23	25106717		23	27306795
ARS-USMARC-Parent-AY939849-rs17870274	ARS-USMARC-Parent-AY939849-rs17870274	ttttatgtctagccctcactcccagtgtaaacctgttg ttccctgtatttctgca[A/G]tggtgtcacagagg aagtgggtagttagttctgccttgatcacgctKtctc tRtctta	4	24	44567434		24	56415794
ARS-USMARC-Parent-AY941204-rs17872131	ARS-USMARC-Parent-AY941204-rs17872131	cacttgatgtatttcagaagtttctcatgccaagcta agagcagttcacgtagtata[T/C]ttcagggtcagg aaggcYgcccataaagggcattgttgatccttga ggacgttgag	4	25	17192835		25	14683151
ARS-USMARC-Parent-AY943841-rs17871566	ARS-USMARC-Parent-AY943841-rs17871566	TCAGATGATCAGGACAGCCAAGGAACT CTAGAGGGCCTAAACTCCAAATCTTCTGT CCC[A/G]AGTCAAGTGTCTTTGTGAGAAG CAGGCCACAAGGAACAATATGTTTCATTC TAGAGTCTT	4	1	160223705		1	138583183
ARS-USMARC-Parent-DQ381152-rs29002408	ARS-USMARC-Parent-DQ381152-rs29002408	ctcaaagcacacatgtatattatgtatatacatcac acgcataatctttggtttc[A/T]ttcacatagact gaatgctttaaactctttaaactgcccttctcag atatgatg	4	17	10136525		17	17616950
ARS-USMARC-Parent-DQ381153-rs29012842	ARS-USMARC-Parent-DQ381153-rs29012842	tctgagtgtcattgctgcaccgctctccaagctcca agggcactctctacgtaata[T/G]taatgcctggcc aggctccatccattctgacagacaaggacaRRcgct actttacattt	4	1	3083497		1	3249057



ARS-USMARC-Parent-DQ404149-no-rs	ARS-USMARC-Parent-DQ404149-no-rs	gattcttaaggggctcataagataaagcttttgcttctcagaatttcagcatttct[T/C]gagattactccatcccatttcaaggagttctatgccccatctctggccctccaggaca	4	1	100876222		1	99314925
ARS-USMARC-Parent-DQ404150-rs29012530	ARS-USMARC-Parent-DQ404150-rs29012530	gcttaaagtctaaaccaatcaacaattgttttcaaaagataaatgcaagaaaaaat[T/G]cttctaattgtctcctatgcctttgagtgaaagtggttacttgtttagaagagctc	4	1	59799326		1	59409838
ARS-USMARC-Parent-DQ404151-rs29019282	ARS-USMARC-Parent-DQ404151-rs29019282	tttctctcatctttcctttctccatgatactgtgaatta ctgctccatgatacgcac[T/C]ccccRccccctaca atgttgggcgattgttctcgggtcctttatgtgtgac ggttctt	4	1	110940741		1	151349514
ARS-USMARC-Parent-DQ404152-rs29022245	ARS-USMARC-Parent-DQ404152-rs29022245	ttgaaagcMaagagcagctggttctatacctgtg ccatYgggcccYtccttcccctc[A/G]ccccctcct agggcatagggcacatcctgggctgtctgatatctt ctccccat	4	0	0		2	5306838
ARS-USMARC-Parent-DQ404153-no-rs	ARS-USMARC-Parent-DQ404153-no-rs	TGGGTATAGGGAGGTAGTGTGGCCAG TTTTCTGCAGTTCTCTCTGTCTGGCTCA C[T/C]GAGCCCTGACTGCTTGGCCACATG GTCCTCTTAATGGGGCTCCTTGTGGCAG GTCTTCT	4	29	39386276		29	44756502
ARS-USMARC-Parent-DQ435443-rs29010802	ARS-USMARC-Parent-DQ435443-rs29010802	ttttaaagtgtcatcatgtgccttgaaggtttagcag aaggcgaataattcataatt[A/C]tttagctaggtt ggtgaccactagatagtaggctgtttaaagtctgtgtt tatttac	4	3	49982202		3	58040470
ARS-USMARC-Parent-DQ451555-rs29010795	ARS-USMARC-Parent-DQ451555-rs29010795	tttattatgcttcatatttgaatgataagaYacctgta atttaatttcaggactatt[A/G]ttggataccaaga ctaaattcttcattgagtttctcaattatgaaggca cagactaa	4	0	0		1	29524658



ARS-USMARC-Parent-DQ468384-rs29003967	ARS-USMARC-Parent-DQ468384-rs29003967	gaggggaggggaggggaggggtgcctcctacacctg gccccacctgtacctccttcYgt[T/G]agcctttgttct agctagaagggcccctgaattctccaggtaacccctg agaggggaagga	4	5	119771495	5	113137320
ARS-USMARC-Parent-DQ470475-no-rs	ARS-USMARC-Parent-DQ470475-no-rs	tgatagcattcatagtaatgcttccatttctctgtggaa acataagcgggaagcatgaag[A/T]agacagggga gagagtctcaggaaaagcaactggcttgccttccattcc tgtgttactct	4	5	6528587	5	7651053
ARS-USMARC-Parent-DQ489377-rs29026932	ARS-USMARC-Parent-DQ489377-rs29026932	gYgtgcctggctctgtacagcaggagaaatagcaata ttgaacctttagttgtggtttgt[T/C]tgatgcagggtca tcaYggccacgtgaggtcggcacagggcagtgaggtc Rgccaccagc	4	3	77883376	3	98188384
ARS-USMARC-Parent-DQ500958-no-rs	ARS-USMARC-Parent-DQ500958-no-rs	cYgcagcaaggtgagtggtccagcactcccttcccag aacagggatgctaaaatctgaaa[A/G]cattagcag agtggggagggatgctgaaaaagcattgaccttgtct gggtgggcaaggg	4	5	30554943	5	27825118
ARS-USMARC-Parent-DQ647186-rs29014143	ARS-USMARC-Parent-DQ647186-rs29014143	cctcctatacttaccatgtatgttagctggctagggga tctgactgcttctcacagct[A/G]tgtcttttctcata aacttcccttctccctgtcttctcagtgctctaYRga gaactgc	4	4	16533095	4	17200594
ARS-USMARC-Parent-DQ647187-rs29010510	ARS-USMARC-Parent-DQ647187-rs29010510	GACTTTTCACATGTGAGGCAAACGTGATA ACCACTACACCACGGAAAGGCGACAGTC GCT[A/G]CCACTGAGCCCTGTATCCAGGA AAACCCAAGGTTAGCCGCCACTATCCAA GCCACCAAC	4	3	22958653	3	21146877
ARS-USMARC-Parent-DQ647189-rs29012226	ARS-USMARC-Parent-DQ647189-rs29012226	CATCTGAAAAACTCAGGCATGAGCTACTA TTATCTGGGTACTTCTGAGAGCATGTGGG AG[T/C]GGGGTCTGTCCTGAAAAGGCCTC ACTCGGTTACATCAGCAGTGAGTCCTGCT CGGTTACA	4	5	67701053	5	63273386



ARS-USMARC-Parent-DQ647190-rs29013632	ARS-USMARC-Parent-DQ647190-rs29013632	GTGATTCTGTTCAAGTATTCTGCAATTGG TCCAGGGACACCAGTCTATGGGCTCCATG TC[A/G]TTGGAACATCACTAACCCCTTCGT ACTGGGTCCTTCATATGTTCTTAAGTGT TATAGC	4	6	13856010		6	13897068
ARS-USMARC-Parent-DQ650635-rs29012174	ARS-USMARC-Parent-DQ650635-rs29012174	tgggataatcttagcaatcagaggctaattacacaaa gaatttcagggttcagaaacac[T/C]cagttgagtg ggaagctcaagttgtcagtagRgaactgttacaagc ggggagaagagg	4	0	0		7	55116289
ARS-USMARC-Parent-DQ650636-rs29024525	ARS-USMARC-Parent-DQ650636-rs29024525	ctatgtgtatgacttataaccagcacctgggtcatgga atggaaaattatcaaagtcttc[T/C]acataSatgac tgctatcctgatttttaatagcaggaMattaatttatt tgcctccttt	4	8	30490121		8	28799249
ARS-USMARC-Parent-DQ674265-rs29011266	ARS-USMARC-Parent-DQ674265-rs29011266	attcttcccRtaactatgtcYtcacggacaaaagcttt aacatgcacgggtgScacatgcc[T/C]gaagttagac tactgtgaacagctcagtagctttaagattcagaat aaactatgtatg	4	8	109814328		8	106174871
ARS-USMARC-Parent-DQ786757-rs29019900	ARS-USMARC-Parent-DQ786757-rs29019900	aaacgaaataaaaacttgctgccaggggaaggttctga tggtgtgatattgcataggca[A/G]ttataaacia ctgtgtctgatagYagttatccactgatatgtgcctcgt gcctacttcc	4	2	115024546		2	111155237
ARS-USMARC-Parent-DQ786758-rs29024430	ARS-USMARC-Parent-DQ786758-rs29024430	ttgatagaactctagtggtttcttgagttgggaatgca gttttctcctctaattgtat[T/G]gttgaagttagtct tttattctgtctcttgccatgttgaaaaagcatgga ggcata	4	7	15211136		7	18454636
ARS-USMARC-Parent-DQ786759-rs29026696	ARS-USMARC-Parent-DQ786759-rs29026696	gacacacatacYactgcacaatcacataaacacac gctcaggagtgaaccgtgccaaag[A/G]aggagga agacagatttaagcaagaataacaagaataaatgaa cattgcatgtggtattg	4	7	92980093		7	94259472



ARS-USMARC-Parent-DQ786761-rs29012840	ARS-USMARC-Parent-DQ786761-rs29012840	aaattaagaatacatataccatagtatttttccttag cttactgaatatgaagttaa[T/C]cttataaaaagc acYtaagaaacaaaagaaacttgaaaagggctagt atttctaataat	4	10	44093122		10	44103665
ARS-USMARC-Parent-DQ786762-rs29010772	ARS-USMARC-Parent-DQ786762-rs29010772	ACAGAAGCACGTGCAAGGTGACCTGTTA CCTGGGCTTCATGGTGATGcGCTTTTCTAA CA[T/G]AAGATTCACCCATTCAGCcAGTG CTTACTCATTACATACAAATCATCTATGCC GAGTCGT	4	0	0		10	81572252
ARS-USMARC-Parent-DQ786763-rs29020472	ARS-USMARC-Parent-DQ786763-rs29020472	gttatcaattatttgcagatgccacRgtcatagaagct tctggcccagagactcaaagt[A/T]gtttgctaaaa cagctaaaataatgtggggactcaggaaaagacaag tctatcRtttgac	4	12	10435764		12	11824653
ARS-USMARC-Parent-DQ786764-no-rs	ARS-USMARC-Parent-DQ786764-no-rs	taataataaataataataatGCAGGGTTGGCA AGCTTAGGAGGAAACCAGTCATCTCA[T/ G]ATGACTCGGTTCAAGATTAACCTGATG GAACTCTCCGAAAAGTAGTTTGGTAATA CGTA	4	12	25363425		12	25668974
ARS-USMARC-Parent-DQ786766-rs29012070	ARS-USMARC-Parent-DQ786766-rs29012070	CACTTTCTAGGTCCATCCATGTTGCTGCAA ATTGCTCATCATGGATCCTGTGATCTATC[A/G]GTTCCATTCTAGGTATATCCTATAG GCAAAGTCACAGGTGAAGGTGTTCTTGG CCAGTA	4	10	3099875		10	3530271
ARS-USMARC-Parent-DQ789028-rs29017713	ARS-USMARC-Parent-DQ789028-rs29017713	ggtgccatgtggatttgccttttcaagcaacacatctg gtcatcactcaccaacctgct[T/C]ggctcttctgga atattttcactgccttYcacttcactcagatttgagag agttaatt	4	6	29239361		6	46936182
ARS-USMARC-Parent-DQ837643-rs29018818	ARS-USMARC-Parent-DQ837643-rs29018818	aagggatattatgttttaatgcactgctgtataattcat cagccctcaccctcccagtc[A/G]aaattactgatg gaaataagcaaacaccccaatttgctatttcccttc ccaatgccaa	4	11	51480969		11	66341589



ARS-USMARC-Parent-DQ837644-rs29010468	ARS-USMARC-Parent-DQ837644-rs29010468	gtacaagataggcYgccaaaggctKcctctctttcag gccaaaatcctcaaggcaattRc[A/C]aagccttga tatctgctagaaatatggagcagatacttgaggaaa tagaatagatattt	4	8	91886013	8	88974063
ARS-USMARC-Parent-DQ837645-rs29015870	ARS-USMARC-Parent-DQ837645-rs29015870	agaacgcagtgcgcaagggtgtggggacagacaaca ggtggcagctcggcagcagtcggc[T/C]gYggggga gatgagcggaggacctcctagcatttgggaagagggg gtcctgaccagcagg	4	11	19117263	11	24553007
ARS-USMARC-Parent-DQ839235-rs29012691	ARS-USMARC-Parent-DQ839235-rs29012691	ccttgccaaggactcgtttcgtgtggaggcttgaaag gctgtcattcacaacaaaaccK[A/C]gatcattatct agtttttaactctcattttcttagcacttgaaaatgcttt aaagccct	4	3	123358772	3	116448759
ARS-USMARC-Parent-DQ846688-rs29023691	ARS-USMARC-Parent-DQ846688-rs29023691	GACCTCGAAGAATACCAGGCAGCCTGCCT AGGGCGGGGCTACACCAGGATCCGAGGT CAC[T/C]GGAGGCCGGATGCCGATTTCTG CTCAGTCACTCAGCTCCACTCAGCACCC AGTGTTAC	4	5	78222735	5	119261609
ARS-USMARC-Parent-DQ846690-no-rs	ARS-USMARC-Parent-DQ846690-no-rs	tcagaggagaatgtctagttagaacttaaaaacagc ttagttccactgtgatctatacc[T/C]catgccacctt gcagctggcctgcagctccgtcactgaccctgtga cggcagagcct	4	14	2757891	14	10171919
ARS-USMARC-Parent-DQ846691-rs29019814	ARS-USMARC-Parent-DQ846691-rs29019814	cagagatctaaaaaagagatgaatttcaaggttgta tgctagttgtgaactgagttca[T/C]tttaRttaaac atcWctatatccgatgtttcRtggggttctctctctc ctctttacct	4	14	43507909	14	48380429
ARS-USMARC-Parent-DQ846692-rs29010281	ARS-USMARC-Parent-DQ846692-rs29010281	AGTGCCTAAGGGTAATGAATGTCCCATAG TCAGCACTTTGTAAGCACCCACTAACTTGC A[A/G]CCAAAATGAACATTTATCTGTTGG AATTCATAGTTTATAGAATATTAGAGATA CTTTTA	4	14	76520019	14	80082923



ARS-USMARC-Parent-DQ846693-rs29017621	ARS-USMARC-Parent-DQ846693-rs29017621	agtccagtgagtaaaagaccagggttttcaggctttatgtctgtacagcatttgctatg[A/G]ttgcctgtttgcaRctgccagaagccaagaagctggtctatYaattggggggaatt	4	16	7693002		16	9855276
ARS-USMARC-Parent-DQ866817-no-rs	ARS-USMARC-Parent-DQ866817-no-rs	tattcagattgatggccagcatctttaacctgactaaataggtttgggacaatctact[A/G]aaattcctgtggtggacatatttctgaaagcctcttgagatcaccactctagaggct	4	15	36330324		15	38078775
ARS-USMARC-Parent-DQ866818-rs29011701	ARS-USMARC-Parent-DQ866818-rs29011701	gacatctttgctttctgtgatttcagggtgcagctcctgagctttagaacatggctgcta[A/C]aagcaatgtgactgaaatcattttctgggattctccagaaccagggtgccagaaggt	4	15	78342209		15	79187295
ARS-USMARC-Parent-DQ888309-rs29013741	ARS-USMARC-Parent-DQ888309-rs29013741	GTTCACTGCAGTTTAAACTTGAAAATGCCTTTAAAAAATCACTCAAAAATAGTTGTTA[T/G]TTATAAAGGCACATTGAAATCTCATTAATGAAGTTATTTACTGAATACACCGTCCCTG	4	7	8443680		7	8272794
ARS-USMARC-Parent-DQ888310-rs29012422	ARS-USMARC-Parent-DQ888310-rs29012422	ggcagggacttagaatggactccatagctgatacggccattggttgggagctaaatcaga[A/C]aatgctccaagctgagctcttgccagacaaggtcaccagttggctctgcagatagcc	4	17	1076846		17	887216
ARS-USMARC-Parent-DQ888311-rs29017313	ARS-USMARC-Parent-DQ888311-rs29017313	CTGTGGCAGCAGCCGATTCTAAACAGAGCAGCTTGTCTTTAGGATGGCCAGCTCTCCAG[A/C]GGAGCCCCCTGGCCTTCAGCAGTGGGGTGAGCACCGCCTCCTTAACCTCTCTTAGCTC	4	19	5743150		19	8505317
ARS-USMARC-Parent-DQ888313-no-rs	ARS-USMARC-Parent-DQ888313-no-rs	ctcatttaactgcatcgttaaactggctcctggcagagttcgggttagtcacatgccca[T/C]gtaaaggtgggtgagctccagaagcagattaaaaagttgggttccRtttttttctccc	4	20	10194185		20	17837675



ARS-USMARC-Parent-DQ916057-rs29009979	ARS-USMARC-Parent-DQ916057-rs29009979	aaaaaactcagtagaggcattccattaatntagtttaacttagtctagttaatttctga[A/T]atKttcctcacagttgggttgactgtggaagaaaactatgttctgtcaaac taaaacaaa	4	7	51918029		7	81591587
ARS-USMARC-Parent-DQ916058-rs29016146	ARS-USMARC-Parent-DQ916058-rs29016146	gtggatgcgcacagtcccaaccactggagcaccagggcattacatcacagaattttaa[A/G]ggaaacggacagcccggcgttgagaatctattaagagcgccaagtctaaccactgacgt	4	0	0		8	1554706
ARS-USMARC-Parent-DQ916059-rs29009907	ARS-USMARC-Parent-DQ916059-rs29009907	AAACACCAATATGACATTCCTCCACATACATGTTGCTTTCCTGGCCACAAAGCAGTCCAC[T/C]GTTAGAGCCTTTGTTTTGCTTTGTTCATCTATTCATTAACAATCATATGTGGGGCACCT	4	18	3213957		18	23426214
ARS-USMARC-Parent-DQ984825-rs29012457	ARS-USMARC-Parent-DQ984825-rs29012457	CACTCAGACGTCCCCAACCGACTCCTTCCTTCCCCATCTCCATTTGAACTAAGAGAGAC[T/C]GAGCCTTTAAAGCCATTGAGAGAGAACAACACTTGAATCTTGCCGAACCCGAGTTATTATA	4	10	72176472		10	98230479
ARS-USMARC-Parent-DQ984826-rs29027559	ARS-USMARC-Parent-DQ984826-rs29027559	tggcctctgtgggttagtagcagcagattctaaggttggaaatactgctccagccca[A/T]tgctaagtgaacaaaaaggctacctacMagctctgaatgtgactgggtgtcatcaggStc	4	14	11179889		14	27751888
ARS-USMARC-Parent-DQ984827-rs29012019	ARS-USMARC-Parent-DQ984827-rs29012019	ttgcatactaaaatacaaatgcaggcactgaaatYRt acaaaaacactacttatcagtag[T/C]ttaagtaaaggcagtgaacatactcattgaaagaatacagggtaccatggaataatgg	4	10	43279115		10	55611885
ARS-USMARC-Parent-DQ990832-rs29015065	ARS-USMARC-Parent-DQ990832-rs29015065	CCAAGAACCACTGTGATAGGAGTAGCCCAACTGGGGATTGAGGAGAGCTCCAGATTCC[A/G]CTCTCTGGCCAGGAGCAAGCTCTTCCCTCTTTTCTTAAAAAATTATTTATTTTAAAT	4	22	11039314		22	11038205



ARS-USMARC-Parent-DQ990833-rs29010147	ARS-USMARC-Parent-DQ990833-rs29010147	aaaggtgacctcctctggcaaccctgtataaggccact attcttaatcactctctctctgg[A/G]tatccaagttca cagcctttaaatgacaaaaagtatacaggtttccaca gctatgtcag	4	24	15870014		24	15447771
ARS-USMARC-Parent-DQ990834-rs29013727	ARS-USMARC-Parent-DQ990834-rs29013727	gtgagtgtgtttcgagacagggttcataagaatgtaat taagttaaacggggttgtaa[A/G]gtggggctctg atgtgatagaattgttgccttgtaaagagatgcaa gaaaactctct	4	26	8434010		26	8221270
ARS-USMARC-Parent-DQ995976-no-rs	ARS-USMARC-Parent-DQ995976-no-rs	ttaaaatattggctccttaaatagccatgcacctgatg ggttgtttgtagcatccattac[T/C]actgaccaaag atgtgttttttaataatccagcaacagttattgcc ccttttgc	4	21	1016752		21	3088886
ARS-USMARC-Parent-DQ995977-rs29020834	ARS-USMARC-Parent-DQ995977-rs29020834	gtacaaggYgaggctgccaggtgtcacggcgagg gctgagactctggtgccacgggt[T/C]gggaggaa ggtactggcctcaggcaggcacacctgggctacct ttcatgaaacgaat	4	24	1360061		24	1854953
ARS-USMARC-Parent-EF026084-rs29025380	ARS-USMARC-Parent-EF026084-rs29025380	cttataaaaaaaaaaatggattctagaacaactggc tcatcaacagctattaattata[T/C]tgaattgcct gacaggctagaactggcagtggtgctagacaaagaa aacaaaagatga	4	19	11856766		19	15345312
ARS-USMARC-Parent-EF026086-rs29013660	ARS-USMARC-Parent-EF026086-rs29013660	tcttctttcatccttaccatagctaggaaaggactca taggcccgctggataatcta[T/C]agtatgtcccc atStYagggtttgtagccttgatcacatctgcaaaYtc ctttgtcgtt	4	28	29697792		28	35331560
ARS-USMARC-Parent-EF026087-rs29011643	ARS-USMARC-Parent-EF026087-rs29011643	ttccttgggtttgccttccaccacctgctctgacaga cctttaattttggaYcRctg[T/C]ggttgaagcccgtg gatgcacagtcccaagccagcactaactgtttgct ttggagag	4	13	2087524		13	1982209



ARS-USMARC-Parent- EF028073- rs29014953	ARS-USMARC-Parent- EF028073-rs29014953	caagatgataaggattgtatttaaggttctgataag acattgacagRggcagggtaga[T/C]actaattaat gcgaggcaacttgattattgacaggcaggacctgga ttgtgggcatcaa	4	18	993755	18	1839733
ARS-USMARC-Parent- EF034080- rs29024749	ARS-USMARC-Parent- EF034080-rs29024749	atatcacacaactcctagaagccaacaccacggtcac atgatcctgggtggccaatatggc[A/G]gtgcttctac actatagaatggaatacgtattaatagctYttacatta ttggcttcattt	4	29	29741734	29	28647816
ARS-USMARC-Parent- EF034081- rs29009668	ARS-USMARC-Parent- EF034081-rs29009668	gctaggactgaggacttctcctcttatgtaagcatca atcagaaaatgctgggtgaca[A/T]gcactactatc tataaaatagatggctggtggaaagctgctgtatagc acagggagctca	4	13	24831805	13	25606469
ARS-USMARC-Parent- EF034082- rs29013532	ARS-USMARC-Parent- EF034082-rs29013532	cgcagctatcatagatgttctttccctataaacaac tttgggtggtatattttac[A/G]Kacctgagattta tttattgcaggaatRtacttcagtatttttagtaaattt acatag	4	22	57362460	22	56526462
ARS-USMARC-Parent- EF034083- rs29018286	ARS-USMARC-Parent- EF034083-rs29018286	gacagaccaggcggaggttggagtcttgttttctccc catagaacttggcacatttgc[T/G]tgaagattgac tatagaatgggaggtgctggccagcttggcagttgtca gggtgtggctg	4	25	4110046	25	3126438
ARS-USMARC-Parent- EF034084- rs29016185	ARS-USMARC-Parent- EF034084-rs29016185	cttctcatgagaaatcagcccacatatcatgcaattc acactcacatatatcagttgaa[C/G]gaStgtgaga aatcagaaatcatatWatttacagtgtttaaatacatt acacagcaggta	4	27	18046911	27	21480570
ARS-USMARC-Parent- EF034085- rs29025677	ARS-USMARC-Parent- EF034085-rs29025677	aatcttagaaacagcctScaggcagatggtttaaaca cacggtgcagaatgtagactca[A/G]taatgccaga atagccacgtgattcatataaaaccagcactacagt ctatattatcttt	4	28	4150240	28	5913226



ARS-USMARC-Parent- EF034086-no-rs	ARS-USMARC-Parent- EF034086-no-rs	ccaacctgttcagcacatttgaattgcaaataatctct tatttactctcagagtatcca[T/C]gaagctgaagctt gtgatggggttttattatgtggaataaagtactgttggg gaagatct	4	26	38309859		26	38233337
ARS-USMARC-Parent- EF034087-no-rs	ARS-USMARC-Parent- EF034087-no-rs	ctctgtggccaagtatgaaacctgatcactcaattagt taacctctggacacagcattg[T/C]gtctaaaaata cccgccttgggRaagttaaaggttcccctgactccta gtaaggaggcc	4	28	11844442		28	16097749
ARS-USMARC-Parent- EF042090-no-rs	ARS-USMARC-Parent- EF042090-no-rs	catttaagagatactgtcttcttcttggcagcatat aaaatcatcttgagaagac[A/G]atggatgggaa agaagacatctttcatatttgcagcatatttagattY tagaaacagt	4	15	10301215		15	21207529
ARS-USMARC-Parent- EF042091- rs29014974	ARS-USMARC-Parent- EF042091-rs29014974	tcctYctttatcacagcttttctccYatgatgaagcaat aaggcactgatgaattgtgt[A/G]aaggctgggc tccaaaagttggaggtgatgagttacctttaagca ccaaggaacta	4	28	44007258		28	44261945
ARS-USMARC-Parent- EF093509- rs29015170	ARS-USMARC-Parent- EF093509-rs29015170	ctgtgtgattggccaaaaggtattacattcattcttca caaacaacaataactaaaatc[A/T]attatcttctct catgtggtttctatttattcattcatttatttgcctaagga caccaYg	4	22	23047100		22	22573121
ARS-USMARC-Parent- EF093511- rs29012316	ARS-USMARC-Parent- EF093511-rs29012316	gacYaYcaggggaagtccttgtgctcatctttatttgg taggaaactctcctccgtcag[T/G]tgctggatgaatg cagctcttctataaccagcccaaggaaagggcggt ggtctacttct	4	21	21597598		21	26620013
ARS-USMARC-Parent- EF093512- rs29013546	ARS-USMARC-Parent- EF093512-rs29013546	gtttctgtgttcttctttagctggatgttgaactt tggcaaagattagatcaag[C/G]ttgttgtaaaag atcaaggttgttaataaaaacaaccagctccaggat catggaattt	4	27	12431518		27	15141319



ARS-USMARC-Parent- EF141102- rs29015783	ARS-USMARC-Parent- EF141102-rs29015783	ggaatagcttgcaattatTTTTGTccttttcatttgt aaaattccagctcagaa[A/G]tcctcagtgtttg attattctcctctggatatgtaccagttgatagctttt aaaa	4	27	40240122		27	37513923
ARS-USMARC-Parent- EF150946- rs29023666	ARS-USMARC-Parent- EF150946-rs29023666	tgatggcagaccccagccRtatggccacScacacttc tctctctgcttcccaccaccgc[A/G]tggttattgcc acttctgcctttttcttggccttctggaacaccgt ctctattcc	4	26	10836280		26	13229219
ARS-USMARC-Parent- EF164803- rs29011141	ARS-USMARC-Parent- EF164803-rs29011141	gggcagggagggggccttggacgcttctcatgttat tccgtggggttatctctgagac[A/G]gtgtgaatgag agcacggtcacagtgcctgaccccaccctgggcca cgcccttctg	4	19	47383083		19	55174260