Identification and analysis of polymorphisms in miRNA genes and associated targets in *Bos taurus* and *Bos primigenius* for genomic selection in cattle

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Volume II of II (Appendices)

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Genome-wide microRNA and microRNA binding site variation between extinct wild aurochs and modern cattle identifies candidate microRNA-regulated domestication genes

Supplementary Table 1 – List of all genes predicted to be affected by miR-2893 polymorphism between *B. primigenius* and *B. taurus*, ranked with SSr score.

PS: Polymorphic Sites; CS: Common Sites; TgS sum: TargetScan score sum of all sites identified; Gain: unique sites in *B. taurus*; Lost: unique site in *B. primigenius;* Increase: extra sites in *B. taurus*; Decrease: extra sites in *B. primigenius*

Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000023551	MOB3C	3	1	-0.591	-1.773	Decrease:1
ENSBTAG00000015572	YTHDC1	2	1	-0.823	-1.646	Increase:1
ENSBTAG00000011539	PCGF2	3	1	-0.541	-1.623	Increase:1
ENSBTAG00000002985	KCNMB1	3	1	-0.519	-1.557	Lost:1
ENSBTAG00000003595	FAM216B	2	1	-0.732	-1.464	Increase:1
ENSBTAG00000015757	PHYHIP	3	1	-0.484	-1.452	Lost:1
ENSBTAG00000003595	FAM216B	2	1	-0.719	-1.438	Decrease:1
ENSBTAG00000000080	GRWD1	3	1	-0.467	-1.401	Increase:1
ENSBTAG00000007415	SLC7A8	2	1	-0.697	-1.394	Increase:1
ENSBTAG00000015200	L2HGDH	2	1	-0.672	-1.344	Decrease:1
ENSBTAG00000018999	MGRN1	4	1	-0.326	-1.304	Decrease:1
ENSBTAG00000026242	BAALC	2	1	-0.631	-1.262	Increase:1
ENSBTAG00000039335	ARRDC2	2	1	-0.61	-1.22	Decrease:1
ENSBTAG00000007415	SLC7A8	3	1	-0.404	-1.212	Decrease:1
ENSBTAG00000016805	SGMS2	2	1	-0.603	-1.206	Increase:1
ENSBTAG00000000097	KIAA0494	2	1	-0.593	-1.186	Increase:1
ENSBTAG00000021799	RCN3	2	1	-0.584	-1.168	Decrease:1
ENSBTAG00000014944	TBXA2R	2	1	-0.566	-1.132	Increase:1
ENSBTAG00000015200	L2HGDH	2	1	-0.548	-1.096	Increase:1
ENSBTAG00000004556	SLC2A3	2	1	-0.544	-1.088	Increase:1
ENSBTAG00000047314	PPIE	2	1	-0.542	-1.084	Increase:1
ENSBTAG00000013607	WDR1	2	1	-0.534	-1.068	Decrease:1
ENSBTAG00000021969	KLHL29	2	1	-0.524	-1.048	Decrease:1
ENSBTAG00000005891	FCRL1	2	1	-0.521	-1.042	Gain:1
ENSBTAG00000033679	HLCS	2	1	-0.51	-1.02	Increase:1
ENSBTAG00000027654	EIF4EBP1	2	1	-0.507	-1.014	Decrease:1
ENSBTAG00000017251	SLC26A8	2	1	-0.504	-1.008	Increase:1
ENSBTAG00000003209	BLCAP	2	1	-0.503	-1.006	Increase:1
ENSBTAG00000010775	POGK	2	1	-0.503	-1.006	Increase:1
ENSBTAG00000004603	PHC2	2	1	-0.499	-0.998	Increase:1
ENSBTAG00000014916	GJC2	3	1	-0.328	-0.984	Increase:1
ENSBTAG00000021879	VCL	2	1	-0.479	-0.958	Decrease:1
ENSBTAG00000018362	TMEM109	2	1	-0.465	-0.93	Increase:1
ENSBTAG00000015505	FADS2	3	1	-0.296	-0.888	Lost:1
ENSBTAG00000017116	RASD2	2	1	-0.433	-0.866	Decrease:1
ENSBTAG00000013007	FAM210B	2	1	-0.433	-0.866	Increase:1
ENSBTAG00000007211	ASB12	2	1	-0.43	-0.86	Increase:1
ENSBTAG00000018374	WASF2	2	1	-0.428	-0.856	Increase:1
ENSBTAG00000002847	D2HGDH	2	1	-0.426	-0.852	Decrease:1
ENSBTAG00000013798	PTPRN	2	1	-0.413	-0.826	Lost:1
ENSBTAG00000017831	ERLIN2	2	1	-0.413	-0.826	Lost:1
ENSBTAG00000025136	MYOZ3	2	1	-0.412	-0.824	Lost:1
ENSBTAG00000047314	PPIE	2	1	-0.408	-0.816	Decrease:1

Supplementary Table 1 – List of all genes predicted to be affected by miR-2893 polymorphism between B. primigenius and B. taurus, ranked with SSr score.

Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000009964	DNASE1L2	3	1	-0.272	-0.816	Gain:1
ENSBTAG00000009236	DAGLB	2	1	-0.407	-0.814	Lost:1
ENSBTAG00000032763	RANBP10	2	1	-0.401	-0.802	Increase:1
ENSBTAG00000019662	ATXN7L3	3	1	-0.265	-0.795	Decrease:1
ENSBTAG00000007450	C2	2	1	-0.395	-0.79	Lost:1
ENSBTAG00000007204	KRT80	2	1	-0.392	-0.784	Decrease:1
ENSBTAG00000002908	GNG4	3	1	-0.257	-0.771	Decrease:1
ENSBTAG00000005290	CLDN2	2	1	-0.377	-0.754	Increase:1
ENSBTAG00000020458	STX6	2	1	-0.375	-0.75	Lost:1
ENSBTAG00000018374	WASF2	2	1	-0.374	-0.748	Decrease:1
ENSBTAG00000019334	KLC2	2	1	-0.373	-0.746	Decrease:1
ENSBTAG00000006208	ADCY7	2	1	-0.368	-0.736	Lost:1
ENSBTAG00000001882	CD79A	2	1	-0.365	-0.73	Lost:1
ENSBTAG00000009148	GPA33	2	1	-0.361	-0.722	Lost:1
ENSBTAG00000012922	PHF2	2	1	-0.361	-0.722	Lost:1
ENSBTAG00000015596	SLCO2B1	2	1	-0.361	-0.722	Lost:1
ENSBTAG00000008396	MRPL54	2	1	-0.361	-0.722	Increase:1
ENSBTAG00000015379	UBOX5	2	1	-0.358	-0.716	Decrease:1
ENSBTAG00000019115	CDC42EP4	2	1	-0.357	-0.714	Lost:1
ENSBTAG00000016846	YWHAB	2	1	-0.352	-0.704	Increase:1
ENSBTAG00000023551	MOB3C	2	1	-0.351	-0.702	Increase:1
ENSBTAG00000002018	EIF5A	2	1	-0.349	-0.698	Gain:1
ENSBTAG00000015572	YTHDC1	2	1	-0.344	-0.688	Decrease:1
ENSBTAG00000002885	MSR1	2	1	-0.34	-0.68	Decrease:1
ENSBTAG00000011424	TPM2	2	1	-0.339	-0.678	Lost:1
ENSBTAG00000017718	CCL22	3	3	-0.675	-0.675	Decrease:1
ENSBTAG00000010789	ANKRD54	2	1	-0.337	-0.674	Lost:1
ENSBTAG00000031981	LRRC57	2	1	-0.337	-0.674	Increase:1
ENSBTAG00000030209	ARHGDIA	2	1	-0.334	-0.668	Decrease:1
ENSBTAG00000032534	RHOF	2	1	-0.332	-0.664	Increase:1
ENSBTAG00000021741	RPS6KA2	2	1	-0.33	-0.66	Increase:1
ENSBTAG00000005670		2	1	-0.329	-0.658	Increase:1
ENSBTAG00000002923	CX3CR1	2	1	-0.328	-0.656	Decrease:1
ENSBTAG00000002138	PADI1	2	1	-0.326	-0.652	Lost:1
ENSBTAG00000016299	ZNF784	2	1	-0.322	-0.644	Decrease:1
ENSBTAG00000014603	VAMP1	2	1	-0.321	-0.642	Increase:1
ENSBTAG00000008303	FKBP1A	2	1	-0.32	-0.64	Lost:1
ENSBTAG00000007170	SLC38A7	3	1	-0.212	-0.636	Gain:1
ENSBTAG00000012467	MASP1	2	1	-0.317	-0.634	Gain:1
ENSBTAG00000002361	TMCC2	2	1	-0.316	-0.632	Gain:1
ENSBTAG00000013423	GLRX5	2	1	-0.316	-0.632	Gain:1
ENSBTAG00000005077	CXCL12	2	1	-0.314	-0.628	Gain:1
ENSBTAG00000005658	ECE2	2	1	-0.312	-0.624	Lost:1
ENSBTAG00000016456	CDC42BPB	2	1	-0.311	-0.622	Lost:1
ENSBTAG00000009495	BCAM	2	1	-0.31	-0.62	Decrease:1
ENSBTAG00000001030	MTMR3	3	1	-0.206	-0.618	Increase:1
ENSBTAG00000011010	PRND	2	1	-0.307	-0.614	Decrease:1
ENSBTAG00000021697	PDGFB	2	1	-0.307	-0.614	Lost:1
ENSBTAG00000012275	ENDOU	2	1	-0.305	-0.61	Gain:1
ENSBTAG00000045967		2	1	-0.301	-0.602	Decrease:1
ENSBTAG00000003762	GNB5	2	1	-0.301	-0.602	Increase:1
ENSBTAG00000011720	HSD17B6	1	1	-0.6	-0.6	Decrease:1

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Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000020417	DAPK3	3	1	-0.2	-0.6	Gain:1
ENSBTAG00000018948	HIF3A	3	1	-0.199	-0.597	Increase:1
ENSBTAG00000022155	FSTL1	2	1	-0.297	-0.594	Gain:1
ENSBTAG00000015979	SEZ6	2	1	-0.296	-0.592	Decrease:1
ENSBTAG00000000563	MYD88	2	1	-0.295	-0.59	Lost:1
ENSBTAG00000001780	SARS2	2	1	-0.295	-0.59	Decrease:1
ENSBTAG00000003904	GPN1	2	1	-0.295	-0.59	Lost:1
ENSBTAG00000015879	TULP3	2	1	-0.295	-0.59	Lost:1
ENSBTAG00000004018	DGKA	2	1	-0.295	-0.59	Increase:1
ENSBTAG00000020023	MTHFS	1	1	-0.587	-0.587	Decrease:1
ENSBTAG00000008092	RAB37	2	1	-0.292	-0.584	Gain:1
ENSBTAG00000003077	DPF2	2	1	-0.291	-0.582	Decrease:1
ENSBTAG00000003826	SCN1B	2	1	-0.291	-0.582	Lost:1
ENSBTAG00000013290	DYSF	2	1	-0.29	-0.58	Gain:1
ENSBTAG00000007668	AGPAT4	1	1	-0.578	-0.578	Decrease:1
ENSBTAG00000002125	GNAL	2	1	-0.289	-0.578	Gain:1
ENSBTAG00000005670		2	1	-0.288	-0.576	Decrease:1
ENSBTAG00000009291	C13H20orf26	2	1	-0.288	-0.576	Decrease:1
ENSBTAG00000004086	SPINT1	2	1	-0.286	-0.572	Increase:1
ENSBTAG00000001002	TCF7	2	1	-0.285	-0.57	Increase:1
ENSBTAG00000004108	STRA13	2	1	-0.283	-0.566	Gain:1
ENSBTAG00000017263	MXI1	2	1	-0.28	-0.56	Lost:1
ENSBTAG00000006679	MITF	1	1	-0.557	-0.557	Decrease:1
ENSBTAG00000013741	CPLX2	2	1	-0.278	-0.556	Lost:1
ENSBTAG00000015129	KLK10	2	1	-0.276	-0.552	Gain:1
ENSBTAG00000020499	PLA2G2D1	1	1	-0.55	-0.55	Increase:1
ENSBTAG00000044207	RAB2B	2	1	-0.273	-0.546	Increase:1
ENSBTAG00000040215	EIF4G3	1	1	-0.545	-0.545	Decrease:1
ENSBTAG00000014368	SLAMF6	1	1	-0.541	-0.541	Decrease:1
ENSBTAG00000002224	UHRF1	2	1	-0.269	-0.538	Increase:1
ENSBTAG00000020602	IDO1	1	1	-0.534	-0.534	Increase:1
ENSBTAG00000001772	PDCL2	1	1	-0.53	-0.53	Decrease:1
ENSBTAG00000019497	ILDR2	2	1	-0.265	-0.53	Gain:1
ENSBTAG00000018362	TMEM109	2	1	-0.264	-0.528	Decrease:1
ENSBTAG00000000608	PRCC	1	1	-0.521	-0.521	Decrease:1
ENSBTAG00000005842	ABCC10	2	1	-0.26	-0.52	Gain:1
ENSBTAG00000003865	CASR	2	1	-0.259	-0.518	Gain:1
ENSBTAG00000012239	SLC37A3	2	1	-0.259	-0.518	Gain:1
ENSBTAG00000026842	ZRANB3	1	1	-0.511	-0.511	Decrease:1
ENSBTAG00000016124	PACSIN1	2	1	-0.255	-0.51	Decrease:1
ENSBTAG00000032331	SLC48A1	2	1	-0.254	-0.508	Lost:1
ENSBTAG00000020850	MUL1	2	1	-0.253	-0.506	Lost:1
ENSBTAG00000009087	GNG10	1	1	-0.5	-0.5	Decrease:1
ENSBTAG00000013044	GAB3	1	1	-0.495	-0.495	Decrease:1
ENSBTAG00000016330	Sep-12	1	1	-0.491	-0.491	Increase:1
ENSBTAG00000044099	ZSWIM7	1	1	-0.482	-0.482	Decrease:1
ENSBTAG00000009381	LCP2	1	1	-0.478	-0.478	Decrease:1
ENSBTAG00000025898	TBC1D8	1	1	-0.476	-0.476	Decrease:1
ENSBTAG00000007211	ASB12	1	1	-0.474	-0.474	Decrease:1
ENSBTAG00000004722	THUMPD2	1	1	-0.471	-0.471	Increase:1
ENSBTAG00000007356	ELF1	1	1	-0.471	-0.471	Increase:1
ENSBTAG00000011358	IER3	2	1	-0.235	-0.47	Increase:1

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Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000021762	ZC3H15	1	1	-0.47	-0.47	Increase:1
ENSBTAG00000014916	GJC2	1	1	-0.469	-0.469	Decrease:1
ENSBTAG00000013442	GPR62	2	1	-0.232	-0.464	Increase:1
ENSBTAG00000017781	BCDIN3D	1	1	-0.461	-0.461	Decrease:1
ENSBTAG00000007129	MRVI1	2	1	-0.23	-0.46	Decrease:1
ENSBTAG00000014186	NCOA5	1	1	-0.46	-0.46	Decrease:1
ENSBTAG00000018213	TBCEL	1	1	-0.46	-0.46	Decrease:1
ENSBTAG00000032534	RHOF	2	1	-0.229	-0.458	Decrease:1
ENSBTAG00000000979	C27H8orf40	1	1	-0.456	-0.456	Decrease:1
ENSBTAG00000008367	LIX1L	2	1	-0.228	-0.456	Increase:1
ENSBTAG00000000442	RBP4	1	1	-0.455	-0.455	Decrease:1
ENSBTAG00000020184	AQP8	1	1	-0.455	-0.455	Decrease:1
ENSBTAG00000000666	GHDC	1	1	-0.453	-0.453	Decrease:1
ENSBTAG00000015986	NDE1	2	1	-0.226	-0.452	Decrease:1
ENSBTAG00000019082	RAD51D	2	1	-0.226	-0.452	Gain:1
ENSBTAG00000000965	TNNI3K	1	1	-0.451	-0.451	Increase:1
ENSBTAG00000002174	RERG	1	1	-0.451	-0.451	Increase:1
ENSBTAG00000014046	BPI	1	1	-0.451	-0.451	Increase:1
ENSBTAG00000030881	C10H14orf101	1	1	-0.45	-0.45	Increase:1
ENSBTAG00000005120	TESPA1	1	1	-0.449	-0.449	Decrease:1
ENSBTAG00000016534	BCL11A	1	1	-0.448	-0.448	Decrease:1
ENSBTAG00000019585	MYOM1	1	1	-0.448	-0.448	Decrease:1
ENSBTAG00000010157	TOMM22	1	1	-0.448	-0.448	Increase:1
ENSBTAG00000005089	RHBDD2	1	1	-0.446	-0.446	Decrease:1
ENSBTAG00000007636	IRAK3	1	1	-0.446	-0.446	Decrease:1
ENSBTAG00000015793	RAB38	1	1	-0.446	-0.446	Increase:1
ENSBTAG00000005015	SFXN3	1	1	-0.445	-0.445	Decrease:1
ENSBTAG00000024378	MRPS21	1	1	-0.445	-0.445	Increase:1
ENSBTAG00000022120	FGB	1	1	-0.444	-0.444	Increase:1
ENSBTAG00000004594	MMP7	1	1	-0.44	-0.44	Decrease:1
ENSBTAG00000002970	INTS6	1	1	-0.44	-0.44	Increase:1
ENSBTAG00000008124	GK	1	1	-0.44	-0.44	Increase:1
ENSBTAG00000017409	DLX3	2	1	-0.22	-0.44	Gain:1
ENSBTAG00000019864	MAPK15	1	1	-0.439	-0.439	Increase:1
ENSBTAG00000012020	TRAF5	2	1	-0.219	-0.438	Decrease:1
ENSBTAG00000034978	FAM168B	1	1	-0.437	-0.437	Decrease:1
ENSBTAG00000022808		1	1	-0.435	-0.435	Increase:1
ENSBTAG00000047434	TSNAX	1	1	-0.433	-0.433	Decrease:1
ENSBTAG00000018996	PARK2	1	1	-0.431	-0.431	Decrease:1
ENSBTAG00000006482	PTCD3	1	1	-0.431	-0.431	Increase:1
ENSBTAG00000012702	ZDHHC16	2	1	-0.215	-0.43	Increase:1
ENSBTAG00000006083	KLF1	1	1	-0.429	-0.429	Decrease:1
ENSBTAG00000006170	ZNF76	1	1	-0.429	-0.429	Decrease:1
ENSBTAG00000012189	TMEM86B	1	1	-0.429	-0.429	Decrease:1
ENSBTAG00000035030	TMED7	1	1	-0.429	-0.429	Increase:1
ENSBTAG00000013628	AGXT2L2	1	1	-0.428	-0.428	Decrease:1
ENSBTAG00000011038	MC2R	2	1	-0.213	-0.426	Gain:1
ENSBTAG00000004086	SPINT1	1	1	-0.424	-0.424	Decrease:1
ENSBTAG00000025571	MRPS18A	2	1	-0.212	-0.424	Gain:1
ENSBTAG00000003762	GNB5	1	1	-0.422	-0.422	Decrease:1
ENSBTAG00000021334	C24H18orf32	1	1	-0.421	-0.421	Increase:1
ENSBTAG00000001189	AP1B1	1	1	-0.418	-0.418	Decrease:1

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Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000030529	FAM53C	2	1	-0.209	-0.418	Lost:1
ENSBTAG00000001776	SIRT2	1	1	-0.417	-0.417	Decrease:1
ENSBTAG00000022656	KCTD6	1	1	-0.417	-0.417	Decrease:1
ENSBTAG00000016251	TMEM101	1	1	-0.417	-0.417	Increase:1
ENSBTAG00000021637	POLR3C	1	1	-0.417	-0.417	Increase:1
ENSBTAG00000002209	HN1L	1	1	-0.416	-0.416	Decrease:1
ENSBTAG00000001468	SAMD4A	1	1	-0.415	-0.415	Increase:1
ENSBTAG00000007544	MARVELD3	1	1	-0.413	-0.413	Decrease:1
ENSBTAG00000006030	MYOG	1	1	-0.412	-0.412	Decrease:1
ENSBTAG00000008718	WBSCR17	2	1	-0.206	-0.412	Decrease:1
ENSBTAG00000015304	ANXA9	1	1	-0.412	-0.412	Decrease:1
ENSBTAG00000018253	CHRNA1	1	1	-0.412	-0.412	Decrease:1
ENSBTAG00000006730	SUSD2	1	1	-0.41	-0.41	Decrease:1
ENSBTAG00000026192	C25H7ORF50	2	1	-0.205	-0.41	Gain:1
ENSBTAG00000010503	TIMM9	1	1	-0.41	-0.41	Increase:1
ENSBTAG00000015538	LEMD2	1	1	-0.409	-0.409	Decrease:1
ENSBTAG00000004727	PAQR4	1	1	-0.407	-0.407	Decrease:1
ENSBTAG00000000539	LRRC28	1	1	-0.407	-0.407	Increase:1
ENSBTAG00000001408	CNRIP1	1	1	-0.406	-0.406	Decrease:1
ENSBTAG00000016924	CAP2	1	1	-0.403	-0.403	Decrease:1
ENSBTAG00000006112	SPRTN	1	1	-0.402	-0.402	Decrease:1
ENSBTAG00000005105	PAFAH2	1	1	-0.401	-0.401	Decrease:1
ENSBTAG00000002211	MAPK8IP3	2	1	-0.2	-0.4	Gain:1
ENSBTAG00000004129	CCL11	1	1	-0.4	-0.4	Increase:1
ENSBTAG00000013177	APEX2	1	1	-0.399	-0.399	Increase:1
ENSBTAG00000003864	SLC13A4	1	1	-0.398	-0.398	Decrease:1
ENSBTAG00000003958	TMEM220	1	1	-0.398	-0.398	Decrease:1
ENSBTAG00000010427	RASSF5	2	1	-0.199	-0.398	Increase:1
ENSBTAG00000017388	CCDC23	1	1	-0.397	-0.397	Increase:1
ENSBTAG00000011374	S1PR3	1	1	-0.395	-0.395	Decrease:1
ENSBTAG00000005547	METTL21D	1	1	-0.395	-0.395	Increase:1
ENSBTAG00000004556	SLC2A3	2	1	-0.196	-0.392	Decrease:1
ENSBTAG00000014295	CAPZA1	1	1	-0.392	-0.392	Increase:1
ENSBTAG00000010427	RASSF5	1	1	-0.391	-0.391	Decrease:1
ENSBTAG00000016037	BCKDHA	1	1	-0.391	-0.391	Decrease:1
ENSBTAG00000004368	NFATC3	1	1	-0.39	-0.39	Increase:1
ENSBTAG00000009291	C13H20orf26	1	1	-0.39	-0.39	Increase:1
ENSBTAG00000039391	USP27X	1	1	-0.389	-0.389	Increase:1
ENSBTAG00000030836	ZNF295	1	1	-0.388	-0.388	Decrease:1
ENSBTAG00000003708	SEC23A	1	1	-0.388	-0.388	Increase:1
ENSBTAG00000016284	IL7	1	1	-0.386	-0.386	Increase:1
ENSBTAG00000004432	CHRDL1	1	1	-0.385	-0.385	Increase:1
ENSBTAG00000018084	GATSL3	1	1	-0.383	-0.383	Decrease:1
ENSBTAG00000010229	LAMA2	1	1	-0.383	-0.383	Increase:1
ENSBTAG00000008939	DNMBP	2	1	-0.191	-0.382	Gain:1
ENSBTAG00000002485	TNS1	1	1	-0.38	-0.38	Decrease:1
ENSBTAG00000011358	IER3	1	1	-0.379	-0.379	Decrease:1
ENSBTAG00000019070	PMP22	1	1	-0.377	-0.377	Decrease:1
ENSBTAG00000001662	EHD3	1	1	-0.376	-0.376	Decrease:1
ENSBTAG00000008719	PRKCD	1	1	-0.376	-0.376	Decrease:1
ENSBTAG00000010822	PLCXD3	1	1	-0.376	-0.376	Increase:1
ENSBTAG00000017423	TMEM214	1	1	-0.374	-0.374	Decrease:1

Supplementary Table 1 – List of all genes predicted to be affected by miR-2893 polymorphism between B. primigenius and B. taurus, ranked with SSr score.

Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000001805	TWSG1	2	1	-0.187	-0.374	Increase:1
ENSBTAG00000000014	TXN2	1	1	-0.373	-0.373	Decrease:1
ENSBTAG00000018375	ATCAY	1	1	-0.373	-0.373	Decrease:1
ENSBTAG00000015339	ENDOV	1	1	-0.372	-0.372	Increase:1
ENSBTAG00000038904	PRRT1	2	1	-0.186	-0.372	Increase:1
ENSBTAG00000046391	LOC100300494	1	1	-0.372	-0.372	Increase:1
ENSBTAG00000004328	CHST10	2	1	-0.185	-0.37	Gain:1
ENSBTAG00000005086	RPRD1B	1	1	-0.368	-0.368	Decrease:1
ENSBTAG00000043553		1	1	-0.368	-0.368	Decrease:1
ENSBTAG00000000139	SETD8	1	1	-0.367	-0.367	Decrease:1
ENSBTAG00000030648	MPST	1	1	-0.367	-0.367	Increase:1
ENSBTAG00000008424	ABR	2	1	-0.182	-0.364	Decrease:1
ENSBTAG00000021518	TMPRSS4	1	1	-0.364	-0.364	Decrease:1
ENSBTAG00000007137	RFC5	1	1	-0.363	-0.363	Increase:1
ENSBTAG00000016887	TAF11	1	1	-0.363	-0.363	Increase:1
ENSBTAG00000007884	SREBF1	1	1	-0.36	-0.36	Decrease:1
ENSBTAG00000039425	KRT6C	1	1	-0.36	-0.36	Increase:1
ENSBTAG00000012702	ZDHHC16	1	1	-0.359	-0.359	Decrease:1
ENSBTAG00000012771	CSF1R	1	1	-0.359	-0.359	Decrease:1
ENSBTAG00000034323	SLC2A5	1	1	-0.359	-0.359	Increase:1
ENSBTAG00000007397	FOLH1	1	1	-0.355	-0.355	Increase:1
ENSBTAG00000013167	SIGLEC1	1	1	-0.355	-0.355	Increase:1
ENSBTAG00000008367	LIX1L	1	1	-0.354	-0.354	Decrease:1
ENSBTAG00000015694	MON1B	2	1	-0.177	-0.354	Gain:1
ENSBTAG00000021360		1	1	-0.352	-0.352	Decrease:1
ENSBTAG00000002748	TMEM55B	1	1	-0.352	-0.352	Increase:1
ENSBTAG00000007304	CLK3	1	1	-0.352	-0.352	Increase:1
ENSBTAG00000012403	ARG1	1	1	-0.352	-0.352	Increase:1
ENSBTAG00000018456	ZNF7	1	1	-0.352	-0.352	Increase:1
ENSBTAG00000008424	ABR	1	1	-0.351	-0.351	Increase:1
ENSBTAG00000010653	FAM73B	1	1	-0.35	-0.35	Decrease:1
ENSBTAG00000007066	TMTC4	1	1	-0.35	-0.35	Increase:1
ENSBTAG00000007160	CDK4	1	1	-0.35	-0.35	Increase:1
ENSBTAG00000025088	RCVRN	1	1	-0.349	-0.349	Decrease:1
ENSBTAG00000011990	ALOX15	1	1	-0.349	-0.349	Increase:1
ENSBTAG00000007193	CCL16	1	1	-0.348	-0.348	Decrease:1
ENSBTAG00000008978	USP22	2	1	-0.174	-0.348	Lost:1
ENSBTAG00000011593	QKI	1	1	-0.348	-0.348	Increase:1
ENSBTAG00000008216	RRM2	1	1	-0.346	-0.346	Decrease:1
ENSBTAG00000011399	YARS2	1	1	-0.346	-0.346	Decrease:1
ENSBTAG00000002105		1	1	-0.346	-0.346	Increase:1
ENSBTAG00000021002	ACP2	1	1	-0.346	-0.346	Increase:1
ENSBTAG00000021956	ISCA2	1	1	-0.345	-0.345	Decrease:1
ENSBTAG00000012514	PODN	1	1	-0.345	-0.345	Increase:1
ENSBTAG00000014007	ELMOD2	1	1	-0.345	-0.345	Increase:1
ENSBTAG00000013914	PET112	1	1	-0.343	-0.343	Increase:1
ENSBTAG00000005193	CRTAM	1	1	-0.342	-0.342	Increase:1
ENSBTAG00000016121	KRT75	1	1	-0.341	-0.341	Increase:1
ENSBTAG00000019225	SLC39A14	1	1	-0.34	-0.34	Decrease:1
ENSBTAG00000013273	PIGL	1	1	-0.34	-0.34	Increase:1
ENSBTAG00000005963	MAT1A	2	1	-0.169	-0.338	Gain:1
ENSBTAG00000000090	SEC31B	1	1	-0.334	-0.334	Increase:1

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Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000010545	KXD1	1	1	-0.334	-0.334	Increase:1
ENSBTAG00000008854		1	1	-0.333	-0.333	Decrease:1
ENSBTAG00000001656	C28H10orf57	1	1	-0.333	-0.333	Increase:1
ENSBTAG00000002332	LSM5	1	1	-0.332	-0.332	Lost:1
ENSBTAG00000009899	CHID1	1	1	-0.332	-0.332	Decrease:1
ENSBTAG00000024539	SPSB1	1	1	-0.331	-0.331	Decrease:1
ENSBTAG00000009470	CLIC4	1	1	-0.329	-0.329	Increase:1
ENSBTAG00000002105		2	1	-0.164	-0.328	Decrease:1
ENSBTAG00000007365	NEIL1	1	1	-0.328	-0.328	Decrease:1
ENSBTAG00000000500	PINX1	1	1	-0.327	-0.327	Decrease:1
ENSBTAG00000002455	KLHL8	1	1	-0.327	-0.327	Increase:1
ENSBTAG00000013109	STIM1	1	1	-0.326	-0.326	Increase:1
ENSBTAG00000024983	FBXO47	1	1	-0.325	-0.325	Decrease:1
ENSBTAG00000004310	UBR7	1	1	-0.325	-0.325	Increase:1
ENSBTAG00000018176	C19H17orf62	1	1	-0.325	-0.325	Increase:1
ENSBTAG00000001780	SARS2	1	1	-0.324	-0.324	Increase:1
ENSBTAG00000009495	BCAM	1	1	-0.324	-0.324	Increase:1
ENSBTAG00000015513	DOCK5	1	1	-0.324	-0.324	Increase:1
ENSBTAG00000019794	SYPL1	1	1	-0.324	-0.324	Increase:1
ENSBTAG00000009142	RNMT	1	1	-0.323	-0.323	Lost:1
ENSBTAG00000039819	RPH3AL	1	1	-0.323	-0.323	Decrease:1
ENSBTAG00000015379	UBOX5	1	1	-0.323	-0.323	Increase:1
ENSBTAG00000009436	TMEM79	1	1	-0.322	-0.322	Decrease:1
ENSBTAG00000010100	MED20	1	1	-0.322	-0.322	Decrease:1
ENSBTAG00000038904	PRRT1	2	1	-0.161	-0.322	Decrease:1
ENSBTAG00000001793	HSD11B1L	1	1	-0.321	-0.321	Increase:1
ENSBTAG00000003638	ZNF215	1	1	-0.32	-0.32	Increase:1
ENSBTAG00000001229	SLC25A22	2	1	-0.16	-0.32	Gain:1
ENSBTAG00000015880	PRIMA1	1	1	-0.318	-0.318	Increase:1
ENSBTAG00000021318	SCAMP5	2	1	-0.159	-0.318	Gain:1
ENSBTAG00000000634	MLPH	2	1	-0.158	-0.316	Increase:1
ENSBTAG00000006762	PPP1R39	1	1	-0.313	-0.313	Lost:1
ENSBTAG00000003052	PCSK7	1	1	-0.311	-0.311	Increase:1
ENSBTAG00000019125	SLC1A1	1	1	-0.311	-0.311	Increase:1
ENSBTAG00000023632	FBXL8	1	1	-0.311	-0.311	Increase:1
ENSBTAG00000007166	CAMKK1	1	1	-0.31	-0.31	Decrease:1
ENSBTAG00000020755	SELP	1	1	-0.31	-0.31	Increase:1
ENSBTAG00000001224	ATP9B	1	1	-0.308	-0.308	Lost:1
ENSBTAG00000015758	C18H16orf57	1	1	-0.307	-0.307	Decrease:1
ENSBTAG00000020984	RAPGEF4	1	1	-0.307	-0.307	Lost:1
ENSBTAG00000017636		1	1	-0.307	-0.307	Increase:1
ENSBTAG00000026819	HDAC7	1	1	-0.307	-0.307	Increase:1
ENSBTAG00000000016	LTA	1	1	-0.305	-0.305	Lost:1
ENSBTAG00000004294	EVI5L	1	1	-0.305	-0.305	Decrease:1
ENSBTAG00000016105	H2AFY	1	1	-0.305	-0.305	Decrease:1
ENSBTAG00000000042	PYCR1	1	1	-0.305	-0.305	Increase:1
ENSBTAG00000016299	ZNF784	1	1	-0.304	-0.304	Increase:1
ENSBTAG00000016627	WASF1	1	1	-0.304	-0.304	Gain:1
ENSBTAG00000017158	VSNL1	1	1	-0.304	-0.304	Increase:1
ENSBTAG00000006987	CERS3	1	1	-0.303	-0.303	Decrease:1
ENSBTAG00000003077	DPF2	1	1	-0.303	-0.303	Increase:1
ENSBTAG00000019013	HECTD3	1	1	-0.303	-0.303	Gain:1

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Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000039162	PCDHGA2	1	1	-0.303	-0.303	Gain:1
ENSBTAG00000031885	TMEM251	1	1	-0.302	-0.302	Increase:1
ENSBTAG00000017028	USO1	1	1	-0.301	-0.301	Lost:1
ENSBTAG00000016743	DNTTIP1	1	1	-0.301	-0.301	Increase:1
ENSBTAG00000038074	GJC3	1	1	-0.3	-0.3	Lost:1
ENSBTAG00000013831	DSG1	1	1	-0.3	-0.3	Gain:1
ENSBTAG00000000764	GIPC1	1	1	-0.299	-0.299	Increase:1
ENSBTAG00000012295	NKD1	1	1	-0.298	-0.298	Lost:1
ENSBTAG00000013538	PEX14	2	1	-0.149	-0.298	Gain:1
ENSBTAG00000031348	CCR9	1	1	-0.297	-0.297	Lost:1
ENSBTAG00000031849	TMEM119	1	1	-0.297	-0.297	Increase:1
ENSBTAG00000013501	DHRS13	1	1	-0.296	-0.296	Lost:1
ENSBTAG00000002885	MSR1	1	1	-0.296	-0.296	Increase:1
ENSBTAG00000016550	MAEL	1	1	-0.296	-0.296	Gain:1
ENSBTAG00000038477	GGCX	1	1	-0.296	-0.296	Gain:1
ENSBTAG00000012156	NAIF1	2	1	-0.147	-0.294	Decrease:1
ENSBTAG00000004426	DNAJB14	1	1	-0.294	-0.294	Gain:1
ENSBTAG00000018239	DNAJC27	1	1	-0.294	-0.294	Gain:1
ENSBTAG00000000501	KLHL13	1	1	-0.292	-0.292	Increase:1
ENSBTAG00000008068	ERLEC1	1	1	-0.292	-0.292	Gain:1
ENSBTAG00000025931	NEU3	1	1	-0.292	-0.292	Gain:1
ENSBTAG00000009237	KDELR2	1	1	-0.289	-0.289	Gain:1
ENSBTAG00000011186	BEST1	1	1	-0.288	-0.288	Increase:1
ENSBTAG00000021252	TMEM35	1	1	-0.287	-0.287	Lost:1
ENSBTAG00000011584	CHST2	1	1	-0.285	-0.285	Lost:1
ENSBTAG00000008545	ATF3	1	1	-0.283	-0.283	Lost:1
ENSBTAG00000001161	FAM60A	1	1	-0.283	-0.283	Gain:1
ENSBTAG00000006068	CC2D1A	1	1	-0.282	-0.282	Decrease:1
ENSBTAG00000012519	XDH	1	1	-0.282	-0.282	Lost:1
ENSBTAG00000027630	CISD2	1	1	-0.282	-0.282	Lost:1
ENSBTAG00000033278	F2RL3	1	1	-0.282	-0.282	Lost:1
ENSBTAG00000020725	CNGA2	1	1	-0.282	-0.282	Increase:1
ENSBTAG00000037465	TRIM6	1	1	-0.281	-0.281	Increase:1
ENSBTAG00000007133	CUL2	1	1	-0.28	-0.28	Decrease:1
ENSBTAG00000009328	NWD1	1	1	-0.28	-0.28	Lost:1
ENSBTAG00000023453	C18H19orf54	1	1	-0.28	-0.28	Increase:1
ENSBTAG00000014711	DBF4	1	1	-0.279	-0.279	Lost:1
ENSBTAG00000009837	ANKS4B	1	1	-0.278	-0.278	Decrease:1
ENSBTAG00000005431	LMCD1	1	1	-0.277	-0.277	Increase:1
ENSBTAG00000037638	KRT73	1	1	-0.277	-0.277	Increase:1
ENSBTAG00000002298	CKAP2L	1	1	-0.276	-0.276	Lost:1
ENSBTAG00000011319	SLTM	1	1	-0.276	-0.276	Lost:1
ENSBTAG00000015885	PPFIA4	1	1	-0.276	-0.276	Lost:1
ENSBTAG00000000029	LYZL6	1	1	-0.275	-0.275	Lost:1
ENSBTAG00000000581		1	1	-0.275	-0.275	Lost:1
ENSBTAG00000010371	CHAC1	1	1	-0.275	-0.275	Decrease:1
ENSBTAG00000017718	CCL22	3	3	-0.275	-0.275	Increase:1
ENSBTAG00000014523	DIRAS2	1	1	-0.274	-0.274	Increase:1
ENSBTAG00000005858	KCNJ13	1	1	-0.273	-0.273	Lost:1
ENSBTAG00000013221	RTTN	1	1	-0.273	-0.273	Lost:1
ENSBTAG00000020375	LOC540627	1	1	-0.273	-0.273	Lost:1
ENSBTAG00000044207	RAB2B	1	1	-0.273	-0.273	Decrease:1

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Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000026263	ZNF45	1	1	-0.273	-0.273	Gain:1
ENSBTAG00000007083		1	1	-0.271	-0.271	Lost:1
ENSBTAG00000009462	MDH2	1	1	-0.271	-0.271	Lost:1
ENSBTAG00000019040	PLBD2	1	1	-0.271	-0.271	Decrease:1
ENSBTAG00000004464	C19H17orf53	1	1	-0.271	-0.271	Increase:1
ENSBTAG00000006920	ABCF3	1	1	-0.27	-0.27	Increase:1
ENSBTAG00000013666	SLC25A29	2	1	-0.135	-0.27	Increase:1
ENSBTAG00000013825	BCAT1	1	1	-0.27	-0.27	Gain:1
ENSBTAG00000007268	F13A1	1	1	-0.269	-0.269	Lost:1
ENSBTAG00000019273	DMRTC2	1	1	-0.269	-0.269	Lost:1
ENSBTAG00000032151	CCDC73	1	1	-0.269	-0.269	Gain:1
ENSBTAG00000009126	YBX2	1	1	-0.268	-0.268	Lost:1
ENSBTAG00000017175	RNF216	1	1	-0.268	-0.268	Lost:1
ENSBTAG00000013611	SCLT1	1	1	-0.267	-0.267	Lost:1
ENSBTAG00000014550	GLT8D1	1	1	-0.267	-0.267	Lost:1
ENSBTAG00000017395	CERS5	1	1	-0.267	-0.267	Lost:1
ENSBTAG00000021283	KCNF1	1	1	-0.267	-0.267	Lost:1
ENSBTAG00000006753	MBD3L1	1	1	-0.267	-0.267	Gain:1
ENSBTAG00000045967		1	1	-0.266	-0.266	Increase:1
ENSBTAG00000001154	DGAT2	1	1	-0.265	-0.265	Decrease:1
ENSBTAG00000002390	C5H12orf68	1	1	-0.265	-0.265	Lost:1
ENSBTAG00000010278	STPG1	1	1	-0.264	-0.264	Decrease:1
ENSBTAG00000018924	QRICH1	1	1	-0.264	-0.264	Decrease:1
ENSBTAG00000037640	PID1	1	1	-0.264	-0.264	Lost:1
ENSBTAG00000033384	ACRV1	1	1	-0.264	-0.264	Gain:1
ENSBTAG00000006835	MCAM	1	1	-0.262	-0.262	Decrease:1
ENSBTAG00000010001	RHOT1	1	1	-0.262	-0.262	Increase:1
ENSBTAG00000017402	OSBPL2	1	1	-0.261	-0.261	Lost:1
ENSBTAG00000005371	DPAGT1	1	1	-0.26	-0.26	Gain:1
ENSBTAG00000007386	NUDCD1	1	1	-0.26	-0.26	Increase:1
ENSBTAG00000017072	ZNF384	1	1	-0.26	-0.26	Increase:1
ENSBTAG00000017694	TRPS1	1	1	-0.259	-0.259	Gain:1
ENSBTAG00000036009	TRAF6	1	1	-0.258	-0.258	Gain:1
ENSBTAG00000022169	PREX2	1	1	-0.257	-0.257	Gain:1
ENSBTAG00000014873	COA5	1	1	-0.256	-0.256	Gain:1
ENSBTAG00000018699	KAT7	1	1	-0.256	-0.256	Gain:1
ENSBTAG00000008372	PEX11B	1	1	-0.255	-0.255	Lost:1
ENSBTAG00000015381	ARHGAP18	1	1	-0.255	-0.255	Lost:1
ENSBTAG00000045794	PL-5283	1	1	-0.255	-0.255	Lost:1
ENSBTAG00000013112	C7H5orf15	1	1	-0.255	-0.255	Increase:1
ENSBTAG00000027453	RNF4	1	1	-0.254	-0.254	Decrease:1
ENSBTAG00000040585	NR6A1	1	1	-0.254	-0.254	Lost:1
ENSBTAG00000027317	RNF114	1	1	-0.254	-0.254	Increase:1
ENSBTAG00000016061	RSAD2	1	1	-0.253	-0.253	Lost:1
ENSBTAG00000019526	CMTM6	1	1	-0.253	-0.253	Lost:1
ENSBTAG00000003115	KBTBD2	1	1	-0.251	-0.251	Lost:1
ENSBTAG00000008711	BOK	1	1	-0.251	-0.251	Increase:1
ENSBTAG00000019164	RHOBTB1	1	1	-0.251	-0.251	Gain:1
ENSBTAG00000031686	ZNF566	1	1	-0.251	-0.251	Gain:1
ENSBTAG00000030523	ZPBP2	1	1	-0.25	-0.25	Gain:1
ENSBTAG00000010956	SCARB2	1	1	-0.249	-0.249	Gain:1
ENSBTAG00000035868	SIGLEC14	1	1	-0.249	-0.249	Gain:1

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Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000012194	DENND2C	1	1	-0.248	-0.248	Lost:1
ENSBTAG00000018538	CEP70	1	1	-0.247	-0.247	Lost:1
ENSBTAG00000045567	PRR15	1	1	-0.247	-0.247	Lost:1
ENSBTAG00000012945	PDE6A	1	1	-0.247	-0.247	Gain:1
ENSBTAG00000008493	AQP3	1	1	-0.246	-0.246	Gain:1
ENSBTAG00000012900	TMEM229B	2	1	-0.123	-0.246	Increase:1
ENSBTAG00000023730	TUBB6	1	1	-0.246	-0.246	Gain:1
ENSBTAG00000045732	C19H17orf105	1	1	-0.245	-0.245	Lost:1
ENSBTAG00000010184	G6PC	1	1	-0.245	-0.245	Gain:1
ENSBTAG00000019129	BTD	1	1	-0.245	-0.245	Gain:1
ENSBTAG00000032477	HECTD1	1	1	-0.245	-0.245	Gain:1
ENSBTAG00000037638	KRT73	1	1	-0.244	-0.244	Decrease:1
ENSBTAG00000001013	SLC30A5	1	1	-0.244	-0.244	Gain:1
ENSBTAG00000003572	F11	1	1	-0.244	-0.244	Gain:1
ENSBTAG00000004097	A2ML1	1	1	-0.244	-0.244	Gain:1
ENSBTAG00000039163	HIST1H1D	1	1	-0.244	-0.244	Increase:1
ENSBTAG00000013035	SIX6	1	1	-0.243	-0.243	Lost:1
ENSBTAG00000020499	PLA2G2D1	1	1	-0.242	-0.242	Decrease:1
ENSBTAG00000001288	MAOB	1	1	-0.242	-0.242	Gain:1
ENSBTAG00000020023	MTHFS	1	1	-0.242	-0.242	Increase:1
ENSBTAG00000033221	CCDC152	1	1	-0.242	-0.242	Gain:1
ENSBTAG00000002357	TICAM2	1	1	-0.241	-0.241	Decrease:1
ENSBTAG00000005156	PIH1D2	1	1	-0.241	-0.241	Lost:1
ENSBTAG00000010387	FAM188A	1	1	-0.241	-0.241	Lost:1
ENSBTAG00000013099	ALDOC	1	1	-0.241	-0.241	Lost:1
ENSBTAG00000013032	CCNDBP1	1	1	-0.241	-0.241	Gain:1
ENSBTAG00000015868	LIG4	1	1	-0.241	-0.241	Increase:1
ENSBTAG00000005464	ADCY6	1	1	-0.239	-0.239	Lost:1
ENSBTAG00000014451	YEATS2	1	1	-0.239	-0.239	Lost:1
ENSBTAG00000020017	SLC25A41	1	1	-0.239	-0.239	Lost:1
ENSBTAG00000011586	HABP4	1	1	-0.239	-0.239	Gain:1
ENSBTAG00000016612	NEK9	1	1	-0.238	-0.238	Lost:1
ENSBTAG00000018421	WWP2	1	1	-0.238	-0.238	Decrease:1
ENSBTAG00000006995	SPTBN1	1	1	-0.238	-0.238	Gain:1
ENSBTAG00000009806	INVS	1	1	-0.237	-0.237	Lost:1
ENSBTAG00000002697	KCTD10	1	1	-0.237	-0.237	Increase:1
ENSBTAG00000003425	C13H20orf72	1	1	-0.236	-0.236	Decrease:1
ENSBTAG00000003956	SGCA	1	1	-0.236	-0.236	Lost:1
ENSBTAG00000010916	LHFPL4	1	1	-0.236	-0.236	Decrease:1
ENSBTAG00000037465	TRIM6	1	1	-0.236	-0.236	Decrease:1
ENSBTAG00000019379	TUSC5	1	1	-0.236	-0.236	Increase:1
ENSBTAG00000026181	UGT1A6	1	1	-0.236	-0.236	Gain:1
ENSBTAG00000009188	GART	1	1	-0.235	-0.235	Lost:1
ENSBTAG00000047009	LOC785478	1	1	-0.235	-0.235	Lost:1
ENSBTAG00000021164	SLMAP	1	1	-0.235	-0.235	Increase:1
ENSBTAG00000009830	PLEKHB1	1	1	-0.234	-0.234	Decrease:1
ENSBTAG00000009994	EML5	1	1	-0.234	-0.234	Lost:1
ENSBTAG00000014064	FGFR2	1	1	-0.234	-0.234	Lost:1
ENSBTAG00000010812	P2RX4	1	1	-0.234	-0.234	Increase:1
ENSBTAG00000007859	VSIG1	1	1	-0.233	-0.233	Lost:1
ENSBTAG00000008937	LOC100851458	1	1	-0.233	-0.233	Lost:1
ENSBTAG00000012443	DIAPH3	1	1	-0.233	-0.233	Lost:1

Supplementary Table 1 – List of all genes predicted to be affected by miR-2893 polymorphism between B. primigenius and B. taurus, ranked with SSr score.

Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000006126	GTF3C1	1	1	-0.233	-0.233	Increase:1
ENSBTAG00000010248	LOC100294933	1	1	-0.233	-0.233	Gain:1
ENSBTAG00000011720	HSD17B6	1	1	-0.233	-0.233	Increase:1
ENSBTAG00000016236	SLC12A6	1	1	-0.233	-0.233	Gain:1
ENSBTAG00000004021	CDK2	1	1	-0.232	-0.232	Lost:1
ENSBTAG00000017943	GALNT6	1	1	-0.232	-0.232	Gain:1
ENSBTAG00000021883	AP3M1	1	1	-0.232	-0.232	Gain:1
ENSBTAG00000000476	THPO	1	1	-0.231	-0.231	Lost:1
ENSBTAG00000003588	ZFAND1	1	1	-0.231	-0.231	Lost:1
ENSBTAG00000008443	LARP1	1	1	-0.231	-0.231	Lost:1
ENSBTAG00000018015	IL27	1	1	-0.231	-0.231	Decrease:1
ENSBTAG00000026829	TMEM185B	1	1	-0.231	-0.231	Lost:1
ENSBTAG00000004769	NEIL2	1	1	-0.231	-0.231	Gain:1
ENSBTAG00000015821		1	1	-0.231	-0.231	Gain:1
ENSBTAG00000003566	ARFIP2	1	1	-0.23	-0.23	Lost:1
ENSBTAG00000012687	INSR	1	1	-0.23	-0.23	Lost:1
ENSBTAG00000012990	PUS1	1	1	-0.23	-0.23	Lost:1
ENSBTAG00000000534	PNOC	1	1	-0.23	-0.23	Increase:1
ENSBTAG00000001107	CACYBP	1	1	-0.23	-0.23	Gain:1
ENSBTAG00000016473	NAT1	1	1	-0.229	-0.229	Lost:1
ENSBTAG00000019565	NCOA4	1	1	-0.229	-0.229	Lost:1
ENSBTAG00000024219	TRPV6	1	1	-0.229	-0.229	Lost:1
ENSBTAG00000014368	SLAMF6	1	1	-0.229	-0.229	Increase:1
ENSBTAG00000016457	FXR1	1	1	-0.229	-0.229	Gain:1
ENSBTAG00000015142	MAPKBP1	1	1	-0.228	-0.228	Decrease:1
ENSBTAG00000009112	TRAM2	1	1	-0.228	-0.228	Gain:1
ENSBTAG00000018806	PSRC1	1	1	-0.228	-0.228	Increase:1
ENSBTAG00000020963	RASSF1	1	1	-0.228	-0.228	Increase:1
ENSBTAG00000006966	NRM	1	1	-0.227	-0.227	Lost:1
ENSBTAG00000009488	NXF1	1	1	-0.227	-0.227	Lost:1
ENSBTAG00000020859	SERPINF2	1	1	-0.227	-0.227	Lost:1
ENSBTAG00000017922	DOLPP1	1	1	-0.226	-0.226	Lost:1
ENSBTAG00000021795	HNF1A	1	1	-0.226	-0.226	Lost:1
ENSBTAG00000008287	YLPM1	1	1	-0.226	-0.226	Gain:1
ENSBTAG00000001009	HCLS1	1	1	-0.225	-0.225	Lost:1
ENSBTAG00000015769	VSIG4	1	1	-0.225	-0.225	Lost:1
ENSBTAG00000003172	MEIS2	1	1	-0.225	-0.225	Gain:1
ENSBTAG00000001002	TCF7	1	1	-0.224	-0.224	Decrease:1
ENSBTAG00000002215	GFPT2	1	1	-0.224	-0.224	Lost:1
ENSBTAG00000004663	TRUB2	1	1	-0.224	-0.224	Lost:1
ENSBTAG00000007097	THTPA	1	1	-0.224	-0.224	Lost:1
ENSBTAG00000012271	LOC781850	1	1	-0.224	-0.224	Lost:1
ENSBTAG00000006818	TMEM185A	1	1	-0.223	-0.223	Lost:1
ENSBTAG00000002908	GNG4	1	1	-0.223	-0.223	Increase:1
ENSBTAG00000004258	EEF2	1	1	-0.223	-0.223	Gain:1
ENSBTAG00000002151	ASB15	1	1	-0.222	-0.222	Decrease:1
ENSBTAG00000005990	S1PR1	1	1	-0.222	-0.222	Lost:1
ENSBTAG00000018240	CYP2S1	1	1	-0.222	-0.222	Lost:1
ENSBTAG00000021222	ZNF771	1	1	-0.222	-0.222	Lost:1
ENSBTAG00000047906	MRPL36	1	1	-0.222	-0.222	Lost:1
ENSBTAG00000001258	TMEM50B	1	1	-0.222	-0.222	Gain:1
ENSBTAG00000001598	MAP7	1	1	-0.222	-0.222	Gain:1

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Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000006933	PPP1R10	1	1	-0.222	-0.222	Gain:1
ENSBTAG00000007668	AGPAT4	1	1	-0.222	-0.222	Increase:1
ENSBTAG00000019933	MKNK1	1	1	-0.222	-0.222	Gain:1
ENSBTAG00000020921	PRKCB	1	1	-0.222	-0.222	Gain:1
ENSBTAG00000040607	SLA2	2	1	-0.111	-0.222	Gain:1
ENSBTAG00000002381	ZDHHC5	1	1	-0.221	-0.221	Lost:1
ENSBTAG00000006777	TLCD1	1	1	-0.221	-0.221	Lost:1
ENSBTAG00000019470	NEK6	1	1	-0.221	-0.221	Gain:1
ENSBTAG00000001983	SMAGP	1	1	-0.22	-0.22	Lost:1
ENSBTAG00000011001	ERG	1	1	-0.22	-0.22	Lost:1
ENSBTAG00000015802	CREB3L2	1	1	-0.22	-0.22	Lost:1
ENSBTAG00000019644	EXT2	1	1	-0.22	-0.22	Lost:1
ENSBTAG00000018725	FBLIM1	2	1	-0.11	-0.22	Gain:1
ENSBTAG00000022160	NAP1L4	1	1	-0.22	-0.22	Increase:1
ENSBTAG00000038189	GPR52	1	1	-0.22	-0.22	Gain:1
ENSBTAG00000001601	PKM	1	1	-0.219	-0.219	Decrease:1
ENSBTAG00000002650	ZNF259	1	1	-0.219	-0.219	Lost:1
ENSBTAG00000040108	ZNF829	1	1	-0.219	-0.219	Lost:1
ENSBTAG00000017566	TUFT1	1	1	-0.219	-0.219	Increase:1
ENSBTAG00000005474	CREB1	1	1	-0.218	-0.218	Lost:1
ENSBTAG00000012896	METTL7B	1	1	-0.218	-0.218	Lost:1
ENSBTAG00000009518	ALKBH3	1	1	-0.218	-0.218	Gain:1
ENSBTAG00000014381	CRHR2	1	1	-0.218	-0.218	Increase:1
ENSBTAG00000000838	CCDC88C	1	1	-0.217	-0.217	Lost:1
ENSBTAG00000007784	NAA50	1	1	-0.217	-0.217	Gain:1
ENSBTAG00000021444	TWIST2	1	1	-0.217	-0.217	Gain:1
ENSBTAG00000034529	HMGA1	1	1	-0.217	-0.217	Increase:1
ENSBTAG00000006805	ZNF180	1	1	-0.216	-0.216	Gain:1
ENSBTAG00000009841	CNDP2	1	1	-0.216	-0.216	Gain:1
ENSBTAG00000020250	SLC28A1	1	1	-0.216	-0.216	Gain:1
ENSBTAG00000006350	SLC22A7	1	1	-0.215	-0.215	Lost:1
ENSBTAG00000048286	E2F6	1	1	-0.215	-0.215	Lost:1
ENSBTAG00000007129	MRVI1	1	1	-0.215	-0.215	Increase:1
ENSBTAG00000008442	NSF	1	1	-0.215	-0.215	Increase:1
ENSBTAG00000013045	DKC1	1	1	-0.214	-0.214	Gain:1
ENSBTAG00000015413	RASA2	1	1	-0.214	-0.214	Gain:1
ENSBTAG00000016309	ATP6V1D	1	1	-0.214	-0.214	Gain:1
ENSBTAG00000017017	CTPS2	1	1	-0.214	-0.214	Gain:1
ENSBTAG00000003238	MEOX2	1	1	-0.213	-0.213	Lost:1
ENSBTAG00000017064	ING4	1	1	-0.213	-0.213	Lost:1
ENSBTAG00000025003	INTS10	1	1	-0.213	-0.213	Lost:1
ENSBTAG00000005133	ANKS6	1	1	-0.213	-0.213	Gain:1
ENSBTAG00000017452	RCAN3	1	1	-0.213	-0.213	Increase:1
ENSBTAG00000034936	ANKIB1	1	1	-0.213	-0.213	Gain:1
ENSBTAG00000008720	C18H16orf78	1	1	-0.212	-0.212	Lost:1
ENSBTAG00000019984	GINS1	1	1	-0.212	-0.212	Lost:1
ENSBTAG00000003632	CYP39A1	1	1	-0.212	-0.212	Gain:1
ENSBTAG00000005227	ATF6	1	1	-0.212	-0.212	Gain:1
ENSBTAG00000009180	NRSN1	1	1	-0.212	-0.212	Gain:1
ENSBTAG00000004063	SERPINA5	1	1	-0.211	-0.211	Lost:1
ENSBTAG00000010795	ATG14	1	1	-0.211	-0.211	Decrease:1
ENSBTAG00000019832	TGFBR2	1	1	-0.211	-0.211	Gain:1

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Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000044029	AVEN	1	1	-0.211	-0.211	Gain:1
ENSBTAG00000014435	TCF19	1	1	-0.21	-0.21	Lost:1
ENSBTAG00000020647	RASL11B	1	1	-0.21	-0.21	Lost:1
ENSBTAG00000005657	CAMK2N2	1	1	-0.21	-0.21	Gain:1
ENSBTAG00000006101	PSMD4	1	1	-0.21	-0.21	Gain:1
ENSBTAG00000010790	EIF3L	1	1	-0.21	-0.21	Gain:1
ENSBTAG00000016869	POLD3	1	1	-0.21	-0.21	Gain:1
ENSBTAG00000030434	FUCA1	1	1	-0.21	-0.21	Gain:1
ENSBTAG00000004356	ROBO4	1	1	-0.209	-0.209	Lost:1
ENSBTAG00000006738	GPR68	1	1	-0.209	-0.209	Decrease:1
ENSBTAG00000012757	GCNT1	1	1	-0.209	-0.209	Decrease:1
ENSBTAG00000021050	LOC513144	1	1	-0.209	-0.209	Lost:1
ENSBTAG00000006679	MITF	1	1	-0.209	-0.209	Increase:1
ENSBTAG00000012319	KCNE1L	1	1	-0.209	-0.209	Gain:1
ENSBTAG00000013315	ATP5B	1	1	-0.209	-0.209	Gain:1
ENSBTAG00000000080	GRWD1	1	1	-0.208	-0.208	Decrease:1
ENSBTAG00000008718	WBSCR17	1	1	-0.208	-0.208	Increase:1
ENSBTAG00000011010	PRND	1	1	-0.208	-0.208	Increase:1
ENSBTAG00000015527	MYO1D	1	1	-0.208	-0.208	Increase:1
ENSBTAG00000015708	CXCR6	1	1	-0.208	-0.208	Gain:1
ENSBTAG00000024381	LOC528150	1	1	-0.208	-0.208	Gain:1
ENSBTAG00000016330	Sep-12	1	1	-0.207	-0.207	Decrease:1
ENSBTAG00000026242	BAALC	1	1	-0.207	-0.207	Decrease:1
ENSBTAG00000031194	PHLDA2	1	1	-0.207	-0.207	Lost:1
ENSBTAG00000033344	SENP8	1	1	-0.207	-0.207	Gain:1
ENSBTAG00000000586	LOC505334	1	1	-0.206	-0.206	Lost:1
ENSBTAG00000007814	WWTR1	1	1	-0.206	-0.206	Lost:1
ENSBTAG00000002966	DNAJC13	1	1	-0.206	-0.206	Gain:1
ENSBTAG00000017321	SUMO3	1	1	-0.206	-0.206	Increase:1
ENSBTAG00000017832	PDK3	1	1	-0.206	-0.206	Gain:1
ENSBTAG00000021102	GALM	1	1	-0.205	-0.205	Lost:1
ENSBTAG00000039705	LOC509113	1	1	-0.205	-0.205	Lost:1
ENSBTAG00000002469	KANK3	1	1	-0.205	-0.205	Gain:1
ENSBTAG00000004641	PLEKHA6	1	1	-0.205	-0.205	Gain:1
ENSBTAG00000033679	HLCS	1	1	-0.204	-0.204	Decrease:1
ENSBTAG00000018924	QRICH1	1	1	-0.204	-0.204	Increase:1
ENSBTAG00000002052		1	1	-0.203	-0.203	Lost:1
ENSBTAG00000010885	TSPYL1	1	1	-0.203	-0.203	Decrease:1
ENSBTAG00000006608	GGT5	1	1	-0.203	-0.203	Gain:1
ENSBTAG00000006998	RASGRP4	1	1	-0.203	-0.203	Gain:1
ENSBTAG00000018192	ALG8	1	1	-0.203	-0.203	Gain:1
ENSBTAG00000010188	RDH8	1	1	-0.202	-0.202	Lost:1
ENSBTAG00000019092	FNDC8	1	1	-0.202	-0.202	Lost:1
ENSBTAG00000010662	LIMK2	1	1	-0.201	-0.201	Lost:1
ENSBTAG00000016878	WDR59	1	1	-0.201	-0.201	Lost:1
ENSBTAG00000003458	CDCA7	1	1	-0.201	-0.201	Gain:1
ENSBTAG00000015979	SEZ6	1	1	-0.201	-0.201	Increase:1
ENSBTAG00000045520	PDYN	1	1	-0.201	-0.201	Gain:1
ENSBTAG00000003240	C8H9orf152	1	1	-0.2	-0.2	Lost:1
ENSBTAG00000006007	SH3GL1	1	1	-0.2	-0.2	Lost:1
ENSBTAG00000013128	ACBD3	1	1	-0.2	-0.2	Lost:1
ENSBTAG00000014498		1	1	-0.2	-0.2	Decrease:1

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Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000016910	METTL21B	1	1	-0.2	-0.2	Lost:1
ENSBTAG00000018262	DNAJC5G	1	1	-0.2	-0.2	Lost:1
ENSBTAG00000019831	MRPS11	1	1	-0.2	-0.2	Lost:1
ENSBTAG00000000608	PRCC	1	1	-0.2	-0.2	Increase:1
ENSBTAG00000001000	CA13	1	1	-0.2	-0.2	Gain:1
ENSBTAG00000007356	ELF1	1	1	-0.199	-0.199	Decrease:1
ENSBTAG00000007799	FAM54A	1	1	-0.199	-0.199	Lost:1
ENSBTAG00000010612	TMED4	1	1	-0.199	-0.199	Lost:1
ENSBTAG00000020350	DUSP2	1	1	-0.199	-0.199	Lost:1
ENSBTAG00000000291	DHTKD1	1	1	-0.199	-0.199	Gain:1
ENSBTAG00000007904	KRT72	1	1	-0.199	-0.199	Gain:1
ENSBTAG00000014181	RNF111	1	1	-0.199	-0.199	Gain:1
ENSBTAG00000040215	EIF4G3	1	1	-0.199	-0.199	Increase:1
ENSBTAG00000011757	PSEN1	1	1	-0.198	-0.198	Lost:1
ENSBTAG00000013442	GPR62	1	1	-0.198	-0.198	Decrease:1
ENSBTAG00000019090	PLEKHH3	1	1	-0.198	-0.198	Lost:1
ENSBTAG00000026696	DCDC2B	1	1	-0.198	-0.198	Lost:1
ENSBTAG00000001568	PPIC	1	1	-0.198	-0.198	Gain:1
ENSBTAG00000000650	TUBGCP6	1	1	-0.197	-0.197	Lost:1
ENSBTAG00000003580		1	1	-0.197	-0.197	Lost:1
ENSBTAG00000004722	THUMPD2	1	1	-0.197	-0.197	Decrease:1
ENSBTAG00000008868	CAPN3	1	1	-0.197	-0.197	Lost:1
ENSBTAG00000012918	CRISP3	1	1	-0.197	-0.197	Decrease:1
ENSBTAG00000001151	APLP1	1	1	-0.197	-0.197	Gain:1
ENSBTAG00000001772	PDCL2	1	1	-0.197	-0.197	Increase:1
ENSBTAG00000007588	ERLIN1	1	1	-0.197	-0.197	Gain:1
ENSBTAG00000010450	WIZ	1	1	-0.197	-0.197	Gain:1
ENSBTAG00000013320	TSPAN1	1	1	-0.197	-0.197	Gain:1
ENSBTAG00000015116	RAD23A	1	1	-0.197	-0.197	Gain:1
ENSBTAG00000003745	WDR48	1	1	-0.196	-0.196	Decrease:1
ENSBTAG00000006526	BCL2L1	1	1	-0.196	-0.196	Lost:1
ENSBTAG00000008492	ZMYM3	1	1	-0.196	-0.196	Lost:1
ENSBTAG00000010519	NEURL4	1	1	-0.196	-0.196	Lost:1
ENSBTAG00000015109	TOB2	1	1	-0.196	-0.196	Lost:1
ENSBTAG00000015363	CDC42SE1	1	1	-0.196	-0.196	Lost:1
ENSBTAG00000014498		1	1	-0.196	-0.196	Increase:1
ENSBTAG00000020892	IL2RA	1	1	-0.196	-0.196	Increase:1
ENSBTAG00000032292	CCDC159	1	1	-0.196	-0.196	Gain:1
ENSBTAG00000014725	CD27	1	1	-0.195	-0.195	Lost:1
ENSBTAG00000019250	BTK	1	1	-0.195	-0.195	Gain:1
ENSBTAG00000019349	SLC6A4	1	1	-0.195	-0.195	Gain:1
ENSBTAG00000021709	SPI1	1	1	-0.195	-0.195	Increase:1
ENSBTAG00000020269	C7H19orf21	1	1	-0.194	-0.194	Lost:1
ENSBTAG00000011189	TJAP1	1	1	-0.194	-0.194	Gain:1
ENSBTAG00000011491	WDR81	1	1	-0.194	-0.194	Increase:1
ENSBTAG00000001440	PMM2	1	1	-0.193	-0.193	Lost:1
ENSBTAG00000008089	AMMECR1L	1	1	-0.193	-0.193	Decrease:1
ENSBTAG00000010470	C29H11orf83	1	1	-0.193	-0.193	Gain:1
ENSBTAG00000039246	TRIM11	1	1	-0.193	-0.193	Gain:1
ENSBTAG00000002041	SASH3	1	1	-0.192	-0.192	Decrease:1
ENSBTAG00000003733	TM4SF5	1	1	-0.192	-0.192	Lost:1
ENSBTAG00000021082	TMEM125	1	1	-0.192	-0.192	Lost:1

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Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000039695	PPP1R18	1	1	-0.192	-0.192	Gain:1
ENSBTAG00000008773	GUCY2D	1	1	-0.191	-0.191	Decrease:1
ENSBTAG00000012501	FTO	1	1	-0.191	-0.191	Lost:1
ENSBTAG00000015321	TRERF1	1	1	-0.191	-0.191	Lost:1
ENSBTAG00000033190	PGM5	1	1	-0.191	-0.191	Lost:1
ENSBTAG00000046273	FAM57A	1	1	-0.191	-0.191	Lost:1
ENSBTAG00000006789	FGD5	1	1	-0.191	-0.191	Increase:1
ENSBTAG00000008309	ATP13A2	1	1	-0.191	-0.191	Gain:1
ENSBTAG00000012677	ARHGAP12	1	1	-0.191	-0.191	Gain:1
ENSBTAG00000032018	ZNF19	1	1	-0.191	-0.191	Gain:1
ENSBTAG00000002107	FZD1	1	1	-0.19	-0.19	Decrease:1
ENSBTAG00000002970	INTS6	1	1	-0.19	-0.19	Decrease:1
ENSBTAG00000004409	IVD	1	1	-0.19	-0.19	Lost:1
ENSBTAG00000017810	EFHC1	1	1	-0.19	-0.19	Lost:1
ENSBTAG00000026369	ENC1	1	1	-0.19	-0.19	Lost:1
ENSBTAG00000000146	FARP1	1	1	-0.19	-0.19	Gain:1
ENSBTAG00000039740	LY6G5B	1	1	-0.19	-0.19	Gain:1
ENSBTAG00000002174	RERG	1	1	-0.189	-0.189	Decrease:1
ENSBTAG00000000562	TOMM20	1	1	-0.189	-0.189	Gain:1
ENSBTAG00000005976	HSD17B7	1	1	-0.189	-0.189	Gain:1
ENSBTAG00000013507	SPRR3	1	1	-0.189	-0.189	Gain:1
ENSBTAG00000017550	CSNK1G3	1	1	-0.189	-0.189	Gain:1
ENSBTAG00000026842	ZRANB3	1	1	-0.189	-0.189	Increase:1
ENSBTAG00000003604	ADAMTSL4	1	1	-0.188	-0.188	Lost:1
ENSBTAG00000009983	KIF23	1	1	-0.188	-0.188	Lost:1
ENSBTAG00000035030	TMED7	1	1	-0.188	-0.188	Decrease:1
ENSBTAG00000012273	FAM131A	1	1	-0.188	-0.188	Gain:1
ENSBTAG00000017200	RHOJ	1	1	-0.188	-0.188	Increase:1
ENSBTAG00000000396	PIM1	1	1	-0.187	-0.187	Lost:1
ENSBTAG00000000638	CDT1	1	1	-0.187	-0.187	Lost:1
ENSBTAG00000017685	JUP	1	1	-0.187	-0.187	Lost:1
ENSBTAG00000018236	EPB41L5	1	1	-0.187	-0.187	Lost:1
ENSBTAG00000026825	TMEM37	1	1	-0.187	-0.187	Decrease:1
ENSBTAG00000010502	SERTAD3	1	1	-0.187	-0.187	Gain:1
ENSBTAG00000012020	TRAF5	1	1	-0.187	-0.187	Increase:1
ENSBTAG00000012353	ZNF34	1	1	-0.187	-0.187	Gain:1
ENSBTAG00000000534	PNOC	1	1	-0.186	-0.186	Decrease:1
ENSBTAG00000030881	C10H14orf101	1	1	-0.186	-0.186	Decrease:1
ENSBTAG00000032340	C10H15orf23	1	1	-0.186	-0.186	Lost:1
ENSBTAG00000002393	C23H6orf89	1	1	-0.186	-0.186	Gain:1
ENSBTAG00000003186	FAM105B	1	1	-0.186	-0.186	Gain:1
ENSBTAG00000011571	ACIN1	1	1	-0.186	-0.186	Gain:1
ENSBTAG00000015142	MAPKBP1	1	1	-0.186	-0.186	Increase:1
ENSBTAG00000020351	SLC34A1	1	1	-0.186	-0.186	Gain:1
ENSBTAG00000002296	TMEM173	1	1	-0.185	-0.185	Lost:1
ENSBTAG00000002413	MCAT	1	1	-0.185	-0.185	Lost:1
ENSBTAG00000002701	UGT3A2	1	1	-0.185	-0.185	Lost:1
ENSBTAG00000005316	GDI2	1	1	-0.185	-0.185	Lost:1
ENSBTAG00000024378	MRPS21	1	1	-0.185	-0.185	Decrease:1
ENSBTAG00000046406	R3HDM4	1	1	-0.185	-0.185	Lost:1
ENSBTAG00000009087	GNG10	1	1	-0.185	-0.185	Increase:1
ENSBTAG00000012940	TMEM25	1	1	-0.185	-0.185	Increase:1

Supplementary Table 1 – List of all genes predicted to be affected by miR-2893 polymorphism between B. primigenius and B. taurus, ranked with SSr score.

Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000000411	HGS	1	1	-0.184	-0.184	Lost:1
ENSBTAG00000012458	PSAPL1	1	1	-0.184	-0.184	Gain:1
ENSBTAG00000015154	MCL1	1	1	-0.184	-0.184	Gain:1
ENSBTAG00000024723	CHCHD3	1	1	-0.184	-0.184	Gain:1
ENSBTAG00000038745	CHMP6	1	1	-0.184	-0.184	Gain:1
ENSBTAG00000000539	LRRC28	1	1	-0.183	-0.183	Decrease:1
ENSBTAG00000012219	CSPG4	1	1	-0.183	-0.183	Lost:1
ENSBTAG00000016615	ABHD6	1	1	-0.183	-0.183	Lost:1
ENSBTAG00000018326	FXYD7	1	1	-0.183	-0.183	Lost:1
ENSBTAG00000032097	FBXO21	1	1	-0.183	-0.183	Lost:1
ENSBTAG00000032680	TMEM63B	1	1	-0.183	-0.183	Lost:1
ENSBTAG00000005384	COPZ1	1	1	-0.183	-0.183	Gain:1
ENSBTAG00000006193	IRAK2	1	1	-0.183	-0.183	Gain:1
ENSBTAG00000023416	PPP2R3A	1	1	-0.183	-0.183	Increase:1
ENSBTAG00000025898	TBC1D8	1	1	-0.183	-0.183	Increase:1
ENSBTAG00000006250	CASC3	1	1	-0.182	-0.182	Lost:1
ENSBTAG00000017868	DHX40	1	1	-0.182	-0.182	Lost:1
ENSBTAG00000019317	GPS1	1	1	-0.182	-0.182	Lost:1
ENSBTAG00000020664	DNAJC14	1	1	-0.182	-0.182	Decrease:1
ENSBTAG00000002081	BMPR1B	1	1	-0.182	-0.182	Increase:1
ENSBTAG00000007016	CNPY4	1	1	-0.182	-0.182	Gain:1
ENSBTAG00000000965	TNNI3K	1	1	-0.181	-0.181	Decrease:1
ENSBTAG00000003018	FSTL3	1	1	-0.181	-0.181	Lost:1
ENSBTAG00000004768	RAI1	1	1	-0.181	-0.181	Lost:1
ENSBTAG00000006045	P4HB	1	1	-0.181	-0.181	Lost:1
ENSBTAG00000006914	PRR3	1	1	-0.181	-0.181	Lost:1
ENSBTAG00000014583	CALM3	1	1	-0.181	-0.181	Decrease:1
ENSBTAG00000015793	RAB38	1	1	-0.181	-0.181	Decrease:1
ENSBTAG00000022808		1	1	-0.181	-0.181	Decrease:1
ENSBTAG00000000745	AQP1	1	1	-0.181	-0.181	Gain:1
ENSBTAG00000004168	STON1	1	1	-0.181	-0.181	Gain:1
ENSBTAG00000006414	NUTF2	1	1	-0.181	-0.181	Gain:1
ENSBTAG00000012500	RARA	1	1	-0.181	-0.181	Gain:1
ENSBTAG00000012921	KIF24	1	1	-0.181	-0.181	Increase:1
ENSBTAG00000018201	DAK	1	1	-0.181	-0.181	Increase:1
ENSBTAG00000010157	TOMM22	1	1	-0.18	-0.18	Decrease:1
ENSBTAG00000011125	MYO9B	1	1	-0.18	-0.18	Lost:1
ENSBTAG00000016251	TMEM101	1	1	-0.18	-0.18	Decrease:1
ENSBTAG00000019782	TPI1	1	1	-0.18	-0.18	Lost:1
ENSBTAG00000009837	ANKS4B	1	1	-0.18	-0.18	Increase:1
ENSBTAG00000012925	NCAPH	1	1	-0.18	-0.18	Gain:1
ENSBTAG00000017605	AK2	1	1	-0.18	-0.18	Gain:1
ENSBTAG00000019605	OPA3	1	1	-0.18	-0.18	Increase:1
ENSBTAG00000001785	TGM3	1	1	-0.179	-0.179	Lost:1
ENSBTAG00000007523	STX4	1	1	-0.179	-0.179	Lost:1
ENSBTAG00000018010	ABCA4	1	1	-0.179	-0.179	Lost:1
ENSBTAG00000019864	MAPK15	1	1	-0.179	-0.179	Decrease:1
ENSBTAG00000020294	PTPN6	1	1	-0.179	-0.179	Lost:1
ENSBTAG00000021334	C24H18orf32	1	1	-0.179	-0.179	Decrease:1
ENSBTAG00000022120	FGB	1	1	-0.179	-0.179	Decrease:1
ENSBTAG00000003439	AKAP10	1	1	-0.179	-0.179	Increase:1
ENSBTAG00000007272	ATP6V0A2	1	1	-0.179	-0.179	Gain:1

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Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000030581	TBC1D5	1	1	-0.179	-0.179	Gain:1
ENSBTAG00000004652	LPAR2	1	1	-0.178	-0.178	Lost:1
ENSBTAG00000010668	GEMIN7	1	1	-0.178	-0.178	Lost:1
ENSBTAG00000014046	BPI	1	1	-0.178	-0.178	Decrease:1
ENSBTAG00000015133	CCR7	1	1	-0.178	-0.178	Lost:1
ENSBTAG00000039313	ZNF341	1	1	-0.178	-0.178	Decrease:1
ENSBTAG00000000585	LY6G6C	1	1	-0.178	-0.178	Gain:1
ENSBTAG00000014324	ANTXR2	1	1	-0.178	-0.178	Increase:1
ENSBTAG00000044056	C19H17orf98	1	1	-0.178	-0.178	Gain:1
ENSBTAG00000001702	TMEM107	1	1	-0.177	-0.177	Lost:1
ENSBTAG00000003543	KEAP1	1	1	-0.177	-0.177	Lost:1
ENSBTAG00000010068	REEP2	1	1	-0.177	-0.177	Lost:1
ENSBTAG00000011556	MED22	1	1	-0.177	-0.177	Lost:1
ENSBTAG00000018255	ACTN1	1	1	-0.177	-0.177	Lost:1
ENSBTAG00000020645	GNAI2	1	1	-0.177	-0.177	Lost:1
ENSBTAG00000044129	ST6GALNAC6	1	1	-0.177	-0.177	Lost:1
ENSBTAG00000011409	CD72	1	1	-0.177	-0.177	Gain:1
ENSBTAG00000013671	UTP14A	1	1	-0.177	-0.177	Gain:1
ENSBTAG00000016826	GPR176	1	1	-0.177	-0.177	Gain:1
ENSBTAG00000032068	PLA2G4F	1	1	-0.177	-0.177	Gain:1
ENSBTAG00000002763	LOC785776	1	1	-0.176	-0.176	Lost:1
ENSBTAG00000005010	MXD3	1	1	-0.176	-0.176	Lost:1
ENSBTAG00000009097	FANCI	1	1	-0.176	-0.176	Lost:1
ENSBTAG00000015145	S100A11	1	1	-0.176	-0.176	Lost:1
ENSBTAG00000018806	PSRC1	1	1	-0.176	-0.176	Decrease:1
ENSBTAG00000018833	SVOP	1	1	-0.176	-0.176	Lost:1
ENSBTAG00000021637	POLR3C	1	1	-0.176	-0.176	Decrease:1
ENSBTAG00000023628	C23H6orf47	1	1	-0.176	-0.176	Lost:1
ENSBTAG00000026003	GUCY2F	1	1	-0.176	-0.176	Lost:1
ENSBTAG00000000271	MNS1	1	1	-0.176	-0.176	Gain:1
ENSBTAG00000005693	CCDC43	1	1	-0.176	-0.176	Gain:1
ENSBTAG00000010330	LYZL1	1	1	-0.176	-0.176	Gain:1
ENSBTAG00000013066	IGF2	1	1	-0.176	-0.176	Increase:1
ENSBTAG00000006860	VWA2	1	1	-0.175	-0.175	Lost:1
ENSBTAG00000031231	IRF1	1	1	-0.175	-0.175	Lost:1
ENSBTAG00000002367	HCFC1R1	1	1	-0.175	-0.175	Gain:1
ENSBTAG00000014454	PRR12	1	1	-0.175	-0.175	Gain:1
ENSBTAG00000017349	PCDHGA8	1	1	-0.175	-0.175	Gain:1
ENSBTAG00000018147	NXPH2	1	1	-0.175	-0.175	Gain:1
ENSBTAG00000046031	C14H8orf82	1	1	-0.175	-0.175	Gain:1
ENSBTAG00000001518	ISG20L2	1	1	-0.174	-0.174	Lost:1
ENSBTAG00000008124	GK	1	1	-0.174	-0.174	Decrease:1
ENSBTAG00000012673	CDK18	1	1	-0.174	-0.174	Lost:1
ENSBTAG00000001364	ATPBD4	1	1	-0.174	-0.174	Gain:1
ENSBTAG00000021481	CA14	1	1	-0.174	-0.174	Gain:1
ENSBTAG00000006747	LTBP3	1	1	-0.173	-0.173	Lost:1
ENSBTAG00000007705	COLEC12	1	1	-0.173	-0.173	Lost:1
ENSBTAG00000015931	TTC4	1	1	-0.173	-0.173	Lost:1
ENSBTAG00000017133	GINS4	1	1	-0.173	-0.173	Decrease:1
ENSBTAG00000017325	ATG13	1	1	-0.173	-0.173	Lost:1
ENSBTAG00000046308		1	1	-0.173	-0.173	Lost:1
ENSBTAG00000004221	ESM1	1	1	-0.173	-0.173	Gain:1

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Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000006984	CD55	1	1	-0.173	-0.173	Gain:1
ENSBTAG00000010221	CCDC93	1	1	-0.173	-0.173	Gain:1
ENSBTAG00000001165	AIFM2	1	1	-0.172	-0.172	Lost:1
ENSBTAG00000010726	F8	1	1	-0.172	-0.172	Gain:1
ENSBTAG00000013044	GAB3	1	1	-0.172	-0.172	Increase:1
ENSBTAG00000017661	RFX2	1	1	-0.172	-0.172	Gain:1
ENSBTAG00000020717	CXHXorf36	1	1	-0.172	-0.172	Gain:1
ENSBTAG00000006482	PTCD3	1	1	-0.171	-0.171	Decrease:1
ENSBTAG00000010503	TIMM9	1	1	-0.171	-0.171	Decrease:1
ENSBTAG00000014237	CYTH4	1	1	-0.171	-0.171	Lost:1
ENSBTAG00000015192	FAM193B	1	1	-0.171	-0.171	Lost:1
ENSBTAG00000016208	TGM2	1	1	-0.171	-0.171	Decrease:1
ENSBTAG00000002255	BHMT	1	1	-0.171	-0.171	Gain:1
ENSBTAG00000008804	SAAL1	1	1	-0.171	-0.171	Gain:1
ENSBTAG00000008951	ALPL	1	1	-0.171	-0.171	Increase:1
ENSBTAG00000001191	CCL17	1	1	-0.17	-0.17	Lost:1
ENSBTAG00000009051	MMP19	1	1	-0.17	-0.17	Lost:1
ENSBTAG00000025250	CCL3	1	1	-0.17	-0.17	Lost:1
ENSBTAG00000009737	LTC4S	1	1	-0.17	-0.17	Gain:1
ENSBTAG00000011143	KPNA1	1	1	-0.17	-0.17	Gain:1
ENSBTAG00000020321	SNX11	1	1	-0.17	-0.17	Gain:1
ENSBTAG00000001055	HNRNPL	1	1	-0.169	-0.169	Lost:1
ENSBTAG00000012348	LRRC71	1	1	-0.169	-0.169	Lost:1
ENSBTAG00000014794	SCYL3	1	1	-0.169	-0.169	Lost:1
ENSBTAG00000017644	KIF17	1	1	-0.169	-0.169	Lost:1
ENSBTAG00000006197	ZDHHC21	1	1	-0.169	-0.169	Gain:1
ENSBTAG00000014179	SLC12A5	1	1	-0.169	-0.169	Increase:1
ENSBTAG00000003708	SEC23A	1	1	-0.168	-0.168	Decrease:1
ENSBTAG00000005547	METTL21D	1	1	-0.168	-0.168	Decrease:1
ENSBTAG00000010524	BCKDK	1	1	-0.168	-0.168	Lost:1
ENSBTAG00000000555	ACO1	1	1	-0.168	-0.168	Gain:1
ENSBTAG00000010731	CDKN2D	1	1	-0.168	-0.168	Gain:1
ENSBTAG00000014291	WNT2B	1	1	-0.168	-0.168	Gain:1
ENSBTAG00000020635	VPS45	1	1	-0.168	-0.168	Gain:1
ENSBTAG00000020663	ORMDL2	1	1	-0.168	-0.168	Gain:1
ENSBTAG00000010913	SRXN1	1	1	-0.167	-0.167	Lost:1
ENSBTAG00000014118	GNPTG	1	1	-0.167	-0.167	Lost:1
ENSBTAG00000018920	TRIM47	1	1	-0.167	-0.167	Lost:1
ENSBTAG00000020602	IDO1	1	1	-0.167	-0.167	Decrease:1
ENSBTAG00000021427	HOXB3	1	1	-0.167	-0.167	Lost:1
ENSBTAG00000021430	UPK3B	1	1	-0.167	-0.167	Lost:1
ENSBTAG00000004129	CCL11	1	1	-0.166	-0.166	Decrease:1
ENSBTAG00000007147	CUEDC1	1	1	-0.166	-0.166	Lost:1
ENSBTAG00000012215		1	1	-0.166	-0.166	Decrease:1
ENSBTAG00000013577	SLC1A5	1	1	-0.166	-0.166	Lost:1
ENSBTAG00000018501	LOC782502	1	1	-0.166	-0.166	Lost:1
ENSBTAG00000018937	HMOX2	1	1	-0.166	-0.166	Lost:1
ENSBTAG00000038716	SKI	1	1	-0.166	-0.166	Lost:1
ENSBTAG00000003313	TNFRSF9	1	1	-0.166	-0.166	Gain:1
ENSBTAG00000010559	DHRS7B	1	1	-0.166	-0.166	Gain:1
ENSBTAG00000015371	GABPB2	1	1	-0.166	-0.166	Gain:1
ENSBTAG00000018213	TBCEL	1	1	-0.166	-0.166	Increase:1

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Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000019953	CYBB	1	1	-0.166	-0.166	Gain:1
ENSBTAG00000044099	ZSWIM7	1	1	-0.166	-0.166	Increase:1
ENSBTAG00000008339	DHX8	1	1	-0.165	-0.165	Lost:1
ENSBTAG00000016284	IL7	1	1	-0.165	-0.165	Decrease:1
ENSBTAG00000018610	KRTAP12-2	1	1	-0.165	-0.165	Lost:1
ENSBTAG00000022022	C17H22orf13	1	1	-0.165	-0.165	Lost:1
ENSBTAG00000007759	ABCB8	1	1	-0.164	-0.164	Decrease:1
ENSBTAG00000008076	SLC35B2	1	1	-0.164	-0.164	Lost:1
ENSBTAG00000012940	TMEM25	1	1	-0.164	-0.164	Decrease:1
ENSBTAG00000015127	SDC4	1	1	-0.164	-0.164	Lost:1
ENSBTAG00000018908	GFOD2	1	1	-0.164	-0.164	Lost:1
ENSBTAG00000019044	BAIAP2	1	1	-0.164	-0.164	Lost:1
ENSBTAG00000009381	LCP2	1	1	-0.164	-0.164	Increase:1
ENSBTAG00000016343	KCNIP2	1	1	-0.164	-0.164	Gain:1
ENSBTAG00000019857	OTUD4	1	1	-0.164	-0.164	Gain:1
ENSBTAG00000009278	MSL3	1	1	-0.163	-0.163	Lost:1
ENSBTAG00000010229	LAMA2	1	1	-0.163	-0.163	Decrease:1
ENSBTAG00000021941		1	1	-0.163	-0.163	Lost:1
ENSBTAG00000004432	CHRDL1	1	1	-0.162	-0.162	Decrease:1
ENSBTAG00000006806	KRT17	1	1	-0.162	-0.162	Lost:1
ENSBTAG00000008401	PFKFB3	1	1	-0.162	-0.162	Decrease:1
ENSBTAG00000020698	MTHFR	1	1	-0.162	-0.162	Lost:1
ENSBTAG00000001104	CMTM4	1	1	-0.162	-0.162	Increase:1
ENSBTAG00000002562	PRAF2	1	1	-0.162	-0.162	Gain:1
ENSBTAG00000005446	POLR2J	1	1	-0.162	-0.162	Gain:1
ENSBTAG00000015311	PTPRR	1	1	-0.162	-0.162	Gain:1
ENSBTAG00000018258	SRSF2	1	1	-0.162	-0.162	Gain:1
ENSBTAG00000019131	CELF3	1	1	-0.162	-0.162	Gain:1
ENSBTAG00000013177	APEX2	1	1	-0.161	-0.161	Decrease:1
ENSBTAG00000014295	CAPZA1	1	1	-0.161	-0.161	Decrease:1
ENSBTAG00000014944	TBXA2R	1	1	-0.161	-0.161	Decrease:1
ENSBTAG00000016331	ROGDI	1	1	-0.161	-0.161	Lost:1
ENSBTAG00000017388	CCDC23	1	1	-0.161	-0.161	Decrease:1
ENSBTAG00000031188	ADIG	1	1	-0.161	-0.161	Decrease:1
ENSBTAG00000039391	USP27X	1	1	-0.161	-0.161	Decrease:1
ENSBTAG00000005089	RHBDD2	1	1	-0.161	-0.161	Increase:1
ENSBTAG00000008113	OSR1	1	1	-0.161	-0.161	Gain:1
ENSBTAG00000033699	CHRM4	1	1	-0.161	-0.161	Increase:1
ENSBTAG00000001468	SAMD4A	1	1	-0.16	-0.16	Decrease:1
ENSBTAG00000005688	MRPS2	1	1	-0.16	-0.16	Lost:1
ENSBTAG00000009543	ESYT1	1	1	-0.16	-0.16	Decrease:1
ENSBTAG00000011406	TESK1	1	1	-0.16	-0.16	Lost:1
ENSBTAG00000012024	SLC29A2	1	1	-0.16	-0.16	Lost:1
ENSBTAG00000023416	PPP2R3A	1	1	-0.16	-0.16	Decrease:1
ENSBTAG00000032738	C14H8orf85	1	1	-0.16	-0.16	Lost:1
ENSBTAG00000002151	ASB15	1	1	-0.16	-0.16	Increase:1
ENSBTAG00000015973	TRAF3IP1	1	1	-0.16	-0.16	Gain:1
ENSBTAG00000017379	GCN1L1	1	1	-0.16	-0.16	Gain:1
ENSBTAG00000027159	ZBTB8OS	1	1	-0.16	-0.16	Gain:1
ENSBTAG00000013526	EFTUD2	1	1	-0.159	-0.159	Decrease:1
ENSBTAG00000017251	SLC26A8	1	1	-0.159	-0.159	Decrease:1
ENSBTAG00000018093	MLL	1	1	-0.159	-0.159	Lost:1

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Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000024162	SLC19A1	1	1	-0.159	-0.159	Lost:1
ENSBTAG00000000442	RBP4	1	1	-0.159	-0.159	Increase:1
ENSBTAG00000012703	GLO1	1	1	-0.159	-0.159	Gain:1
ENSBTAG00000048054	UAP1L1	1	1	-0.159	-0.159	Gain:1
ENSBTAG00000001329	CLPTM1L	1	1	-0.158	-0.158	Lost:1
ENSBTAG00000004738	LRRC47	1	1	-0.158	-0.158	Lost:1
ENSBTAG00000005761	DEDD2	1	1	-0.158	-0.158	Lost:1
ENSBTAG00000009067	DDX6	1	1	-0.158	-0.158	Lost:1
ENSBTAG00000000979	C27H8orf40	1	1	-0.158	-0.158	Increase:1
ENSBTAG00000002691	ELMOD1	1	1	-0.158	-0.158	Gain:1
ENSBTAG00000002834	CCDC69	1	1	-0.158	-0.158	Increase:1
ENSBTAG00000008452	IHH	1	1	-0.158	-0.158	Gain:1
ENSBTAG00000016769	CDK16	1	1	-0.158	-0.158	Gain:1
ENSBTAG00000020989	SUSD4	1	1	-0.158	-0.158	Gain:1
ENSBTAG00000031747	HMGN4	1	1	-0.158	-0.158	Gain:1
ENSBTAG00000000602	RXRB	1	1	-0.157	-0.157	Lost:1
ENSBTAG00000001618	ALPK3	1	1	-0.157	-0.157	Lost:1
ENSBTAG00000018063	SPATA2	1	1	-0.157	-0.157	Lost:1
ENSBTAG00000019627	THY1	1	1	-0.157	-0.157	Lost:1
ENSBTAG00000021223		1	1	-0.157	-0.157	Lost:1
ENSBTAG00000024803	ENDOD1	1	1	-0.157	-0.157	Lost:1
ENSBTAG00000001186		1	1	-0.157	-0.157	Gain:1
ENSBTAG00000005027	GLRX3	1	1	-0.157	-0.157	Gain:1
ENSBTAG00000005793	PEA15	1	1	-0.157	-0.157	Increase:1
ENSBTAG00000011411	SIT1	1	1	-0.157	-0.157	Gain:1
ENSBTAG00000017407	HSF2BP	1	1	-0.157	-0.157	Gain:1
ENSBTAG00000019537	Mar-08	1	1	-0.157	-0.157	Gain:1
ENSBTAG00000007397	FOLH1	1	1	-0.156	-0.156	Decrease:1
ENSBTAG00000012247	MXRA8	1	1	-0.156	-0.156	Lost:1
ENSBTAG00000020047	MON1A	1	1	-0.156	-0.156	Lost:1
ENSBTAG00000007636	IRAK3	1	1	-0.156	-0.156	Increase:1
ENSBTAG00000013923	QPCT	1	1	-0.156	-0.156	Gain:1
ENSBTAG00000015017	GAL3ST4	1	1	-0.156	-0.156	Gain:1
ENSBTAG00000017781	BCDIN3D	1	1	-0.156	-0.156	Increase:1
ENSBTAG00000019660	TMUB2	1	1	-0.156	-0.156	Gain:1
ENSBTAG00000022656	KCTD6	1	1	-0.156	-0.156	Increase:1
ENSBTAG00000047434	TSNAX	1	1	-0.156	-0.156	Increase:1
ENSBTAG00000006844	LEF1	1	1	-0.155	-0.155	Lost:1
ENSBTAG00000007066	TMTC4	1	1	-0.155	-0.155	Decrease:1
ENSBTAG00000016593	FMNL3	1	1	-0.155	-0.155	Lost:1
ENSBTAG00000025101	ASGR2	1	1	-0.155	-0.155	Lost:1
ENSBTAG00000000672	FAM105A	1	1	-0.155	-0.155	Gain:1
ENSBTAG00000005160	GTF2H1	1	1	-0.155	-0.155	Gain:1
ENSBTAG00000007100	TRAPPC10	1	1	-0.155	-0.155	Gain:1
ENSBTAG00000007544	MARVELD3	1	1	-0.155	-0.155	Increase:1
ENSBTAG00000025612	URM1	1	1	-0.155	-0.155	Increase:1
ENSBTAG00000040190	CCDC88B	1	1	-0.155	-0.155	Gain:1
ENSBTAG00000047658	PHF7	1	1	-0.155	-0.155	Gain:1
ENSBTAG00000003386	SUPT4H1	1	1	-0.154	-0.154	Lost:1
ENSBTAG00000046561	LCORL	1	1	-0.154	-0.154	Lost:1
ENSBTAG00000004073	MTA3	1	1	-0.154	-0.154	Gain:1
ENSBTAG00000004772	THEM4	1	1	-0.154	-0.154	Gain:1

Supplementary Table 1 – List of all genes predicted to be affected by miR-2893 polymorphism between B. primigenius and B. taurus, ranked with SSr score.

Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000016588	TMEM8A	1	1	-0.154	-0.154	Gain:1
ENSBTAG00000000097	KIAA0494	1	1	-0.153	-0.153	Decrease:1
ENSBTAG00000006657		1	1	-0.153	-0.153	Lost:1
ENSBTAG00000015721	RAVER1	1	1	-0.153	-0.153	Lost:1
ENSBTAG00000022632	TCTA	1	1	-0.153	-0.153	Lost:1
ENSBTAG00000008747	DCXR	1	1	-0.153	-0.153	Gain:1
ENSBTAG00000013631	GLUL	1	1	-0.153	-0.153	Gain:1
ENSBTAG00000014620	FOXI1	1	1	-0.153	-0.153	Gain:1
ENSBTAG00000019585	MYOM1	1	1	-0.153	-0.153	Increase:1
ENSBTAG00000002121	CDK2AP2	1	1	-0.152	-0.152	Lost:1
ENSBTAG00000007137	RFC5	1	1	-0.152	-0.152	Decrease:1
ENSBTAG00000012489	C21H15orf27	1	1	-0.152	-0.152	Lost:1
ENSBTAG00000018247	OCRL	1	1	-0.152	-0.152	Lost:1
ENSBTAG00000039425	KRT6C	1	1	-0.152	-0.152	Decrease:1
ENSBTAG00000018690	RPAP3	1	1	-0.152	-0.152	Gain:1
ENSBTAG00000003209	BLCAP	1	1	-0.151	-0.151	Decrease:1
ENSBTAG00000004275	DKK3	1	1	-0.151	-0.151	Lost:1
ENSBTAG00000011105	SLC38A2	1	1	-0.151	-0.151	Decrease:1
ENSBTAG00000011655	SAMD10	1	1	-0.151	-0.151	Lost:1
ENSBTAG00000012608	GDAP1	1	1	-0.151	-0.151	Decrease:1
ENSBTAG00000004594	MMP7	1	1	-0.151	-0.151	Increase:1
ENSBTAG00000009085	SLC35A5	1	1	-0.151	-0.151	Gain:1
ENSBTAG00000009573	C15H11orf49	1	1	-0.151	-0.151	Gain:1
ENSBTAG00000009839	GSTK1	1	1	-0.151	-0.151	Gain:1
ENSBTAG00000011729	STARD3	1	1	-0.151	-0.151	Increase:1
ENSBTAG00000011765	GABARAPL1	1	1	-0.151	-0.151	Gain:1
ENSBTAG00000012034	KRT4	1	1	-0.151	-0.151	Gain:1
ENSBTAG00000015465	C7H5orf46	1	1	-0.151	-0.151	Gain:1
ENSBTAG00000010822	PLCXD3	1	1	-0.15	-0.15	Decrease:1
ENSBTAG00000015339	ENDOV	1	1	-0.15	-0.15	Decrease:1
ENSBTAG00000018456	ZNF7	1	1	-0.15	-0.15	Decrease:1
ENSBTAG00000020895	LOXL4	1	1	-0.15	-0.15	Lost:1
ENSBTAG00000001189	AP1B1	1	1	-0.15	-0.15	Increase:1
ENSBTAG00000001703	SYT13	1	1	-0.15	-0.15	Gain:1
ENSBTAG00000004247	RPH3A	1	1	-0.15	-0.15	Gain:1
ENSBTAG00000006112	SPRTN	1	1	-0.15	-0.15	Increase:1
ENSBTAG00000011217	DNAJC11	1	1	-0.15	-0.15	Gain:1
ENSBTAG00000014186	NCOA5	1	1	-0.15	-0.15	Increase:1
ENSBTAG00000016534	BCL11A	1	1	-0.15	-0.15	Increase:1
ENSBTAG00000017830	RBMS2	1	1	-0.15	-0.15	Gain:1
ENSBTAG00000018706	PCTP	1	1	-0.15	-0.15	Gain:1
ENSBTAG00000004368	NFATC3	1	1	-0.149	-0.149	Decrease:1
ENSBTAG00000007307	SELE	1	1	-0.149	-0.149	Lost:1
ENSBTAG00000017381	CLDN19	1	1	-0.149	-0.149	Lost:1
ENSBTAG00000005015	SFXN3	1	1	-0.149	-0.149	Increase:1
ENSBTAG00000011274	ENO2	1	1	-0.149	-0.149	Gain:1
ENSBTAG00000012189	TMEM86B	1	1	-0.149	-0.149	Increase:1
ENSBTAG00000018015	IL27	1	1	-0.149	-0.149	Increase:1
ENSBTAG00000007160	CDK4	1	1	-0.148	-0.148	Decrease:1
ENSBTAG00000016887	TAF11	1	1	-0.148	-0.148	Decrease:1
ENSBTAG00000019967	RASA3	1	1	-0.148	-0.148	Lost:1
ENSBTAG00000021762	ZC3H15	1	1	-0.148	-0.148	Decrease:1

Supplementary Table 1 – List of all genes predicted to be affected by miR-2893 polymorphism between B. primigenius and B. taurus, ranked with SSr score.

Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000003425	C13H20orf72	1	1	-0.148	-0.148	Increase:1
ENSBTAG00000010131	CBFA2T2	1	1	-0.148	-0.148	Gain:1
ENSBTAG00000015304	ANXA9	1	1	-0.148	-0.148	Increase:1
ENSBTAG00000008100	GOLGA7B	1	1	-0.147	-0.147	Decrease:1
ENSBTAG00000008523	TFE3	1	1	-0.147	-0.147	Lost:1
ENSBTAG00000011593	QKI	1	1	-0.147	-0.147	Decrease:1
ENSBTAG00000017602	TMEM45B	1	1	-0.147	-0.147	Lost:1
ENSBTAG00000034323	SLC2A5	1	1	-0.147	-0.147	Decrease:1
ENSBTAG00000002408		1	1	-0.147	-0.147	Gain:1
ENSBTAG00000017524	CBLN4	1	1	-0.147	-0.147	Gain:1
ENSBTAG00000008766	SLC9A1	1	1	-0.146	-0.146	Lost:1
ENSBTAG00000015834	ARHGEF4	1	1	-0.146	-0.146	Lost:1
ENSBTAG00000034347	RBM11	1	1	-0.146	-0.146	Lost:1
ENSBTAG00000046391	LOC100300494	1	1	-0.146	-0.146	Decrease:1
ENSBTAG00000002209	HN1L	1	1	-0.146	-0.146	Increase:1
ENSBTAG00000006714	VTI1A	1	1	-0.146	-0.146	Increase:1
ENSBTAG00000008735	VASH1	1	1	-0.146	-0.146	Gain:1
ENSBTAG00000010624	DCTN2	1	1	-0.146	-0.146	Gain:1
ENSBTAG00000002455	KLHL8	1	1	-0.145	-0.145	Decrease:1
ENSBTAG00000014007	ELMOD2	1	1	-0.145	-0.145	Decrease:1
ENSBTAG00000021417	DMWD	1	1	-0.145	-0.145	Lost:1
ENSBTAG00000045762	SCAMP4	1	1	-0.145	-0.145	Lost:1
ENSBTAG00000000666	GHDC	1	1	-0.145	-0.145	Increase:1
ENSBTAG00000005120	TESPA1	1	1	-0.145	-0.145	Increase:1
ENSBTAG00000009988	SMARCB1	1	1	-0.145	-0.145	Gain:1
ENSBTAG00000012972	CYP2U1	1	1	-0.145	-0.145	Gain:1
ENSBTAG00000030990	UQCC	1	1	-0.145	-0.145	Gain:1
ENSBTAG00000039573	RABL6	1	1	-0.145	-0.145	Gain:1
ENSBTAG00000000905	RAB6B	1	1	-0.144	-0.144	Decrease:1
ENSBTAG00000003570	DDX19A	1	1	-0.144	-0.144	Lost:1
ENSBTAG00000015043	MFNG	1	1	-0.144	-0.144	Lost:1
ENSBTAG00000014270	UNC5B	1	1	-0.144	-0.144	Gain:1
ENSBTAG00000016105	H2AFY	1	1	-0.144	-0.144	Increase:1
ENSBTAG00000001504	NOP14	1	1	-0.143	-0.143	Lost:1
ENSBTAG00000031383	C7H19orf77	1	1	-0.143	-0.143	Decrease:1
ENSBTAG00000039851	UBAC1	1	1	-0.143	-0.143	Lost:1
ENSBTAG00000001594	ARL6IP4	1	1	-0.143	-0.143	Gain:1
ENSBTAG00000009384	AGTRAP	1	1	-0.143	-0.143	Gain:1
ENSBTAG00000020184	AQP8	1	1	-0.143	-0.143	Increase:1
ENSBTAG00000025782	TNFSF8	1	1	-0.143	-0.143	Gain:1
ENSBTAG00000000462	CCDC102A	1	1	-0.142	-0.142	Lost:1
ENSBTAG00000005193	CRTAM	1	1	-0.142	-0.142	Decrease:1
ENSBTAG00000008411	PLEKHO2	1	1	-0.142	-0.142	Lost:1
ENSBTAG00000011539	PCGF2	1	1	-0.142	-0.142	Decrease:1
ENSBTAG00000012077	FAM178A	1	1	-0.142	-0.142	Lost:1
ENSBTAG00000013275	MAD2L2	1	1	-0.142	-0.142	Lost:1
ENSBTAG00000044083	LIMK1	1	1	-0.142	-0.142	Lost:1
ENSBTAG00000007204	KRT80	2	1	-0.071	-0.142	Increase:1
ENSBTAG00000008448	MEIS1	1	1	-0.142	-0.142	Gain:1
ENSBTAG00000012608	GDAP1	1	1	-0.142	-0.142	Increase:1
ENSBTAG00000014204	S100A16	1	1	-0.142	-0.142	Gain:1
ENSBTAG00000014434	CCHCR1	1	1	-0.142	-0.142	Gain:1

Supplementary Table 1 – List of all genes predicted to be affected by miR-2893 polymorphism between B. primigenius and B. taurus, ranked with SSr score.

Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000018253	CHRNA1	1	1	-0.142	-0.142	Increase:1
ENSBTAG00000018996	PARK2	1	1	-0.142	-0.142	Increase:1
ENSBTAG00000020837	ARHGEF16	1	1	-0.142	-0.142	Gain:1
ENSBTAG00000035827	ATG7	1	1	-0.142	-0.142	Gain:1
ENSBTAG00000013776	ITPA	1	1	-0.141	-0.141	Lost:1
ENSBTAG00000033331	CHMP1A	1	1	-0.141	-0.141	Lost:1
ENSBTAG00000006030	MYOG	1	1	-0.141	-0.141	Increase:1
ENSBTAG00000007818		1	1	-0.141	-0.141	Gain:1
ENSBTAG00000008726	NCS1	1	1	-0.141	-0.141	Gain:1
ENSBTAG00000013628	AGXT2L2	1	1	-0.141	-0.141	Increase:1
ENSBTAG00000012403	ARG1	1	1	-0.14	-0.14	Decrease:1
ENSBTAG00000016411	RNF122	1	1	-0.14	-0.14	Lost:1
ENSBTAG00000020503	C17H12orf65	1	1	-0.14	-0.14	Lost:1
ENSBTAG00000030648	MPST	1	1	-0.14	-0.14	Decrease:1
ENSBTAG00000001408	CNRIP1	1	1	-0.14	-0.14	Increase:1
ENSBTAG00000004727	PAQR4	1	1	-0.14	-0.14	Increase:1
ENSBTAG00000006083	KLF1	1	1	-0.14	-0.14	Increase:1
ENSBTAG00000007427	PPRC1	1	1	-0.14	-0.14	Gain:1
ENSBTAG00000016924	CAP2	1	1	-0.14	-0.14	Increase:1
ENSBTAG00000020543	UPK1A	1	1	-0.14	-0.14	Gain:1
ENSBTAG00000034978	FAM168B	1	1	-0.14	-0.14	Increase:1
ENSBTAG00000005679	TMEM130	1	1	-0.139	-0.139	Lost:1
ENSBTAG00000021957	LTBP2	1	1	-0.139	-0.139	Lost:1
ENSBTAG00000004344	ACSL1	1	1	-0.139	-0.139	Gain:1
ENSBTAG00000007759	ABCB8	1	1	-0.139	-0.139	Increase:1
ENSBTAG00000011479	INPP5K	1	1	-0.139	-0.139	Gain:1
ENSBTAG00000039153	RPS6KA4	1	1	-0.139	-0.139	Gain:1
ENSBTAG00000009470	CLIC4	1	1	-0.138	-0.138	Decrease:1
ENSBTAG00000013007	FAM210B	1	1	-0.138	-0.138	Decrease:1
ENSBTAG00000011880	CHAF1B	1	1	-0.138	-0.138	Gain:1
ENSBTAG00000012014	CDX1	1	1	-0.138	-0.138	Gain:1
ENSBTAG00000047389	TNFRSF10D	1	1	-0.138	-0.138	Gain:1
ENSBTAG00000002699	KIT	1	1	-0.137	-0.137	Lost:1
ENSBTAG00000009055	RNF144B	1	1	-0.137	-0.137	Lost:1
ENSBTAG00000020147	LOC100848046	1	1	-0.137	-0.137	Lost:1
ENSBTAG00000000721	GPATCH1	1	1	-0.137	-0.137	Gain:1
ENSBTAG00000002311	REEP6	1	1	-0.137	-0.137	Gain:1
ENSBTAG00000014515	LOC514842	1	1	-0.137	-0.137	Gain:1
ENSBTAG00000001656	C28H10orf57	1	1	-0.136	-0.136	Decrease:1
ENSBTAG00000005312	MED26	1	1	-0.136	-0.136	Lost:1
ENSBTAG00000006719	ANUBL1	1	1	-0.136	-0.136	Lost:1
ENSBTAG00000007623	GLTPD1	1	1	-0.136	-0.136	Lost:1
ENSBTAG00000008442	NSF	1	1	-0.136	-0.136	Decrease:1
ENSBTAG00000012514	PODN	1	1	-0.136	-0.136	Decrease:1
ENSBTAG00000021802	MIEN1	1	1	-0.136	-0.136	Lost:1
ENSBTAG00000038733	EFS	1	1	-0.136	-0.136	Decrease:1
ENSBTAG00000000807	TMED3	1	1	-0.136	-0.136	Increase:1
ENSBTAG00000002940	WNT16	1	1	-0.136	-0.136	Gain:1
ENSBTAG00000008719	PRKCD	1	1	-0.136	-0.136	Increase:1
ENSBTAG00000009646	ALDH7A1	1	1	-0.136	-0.136	Gain:1
ENSBTAG00000010347	EZR	1	1	-0.136	-0.136	Gain:1
ENSBTAG00000018084	GATSL3	1	1	-0.136	-0.136	Increase:1

Supplementary Table 1 – List of all genes predicted to be affected by miR-2893 polymorphism between B. primigenius and B. taurus, ranked with SSr score.

Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000003829	HPN	1	1	-0.135	-0.135	Decrease:1
ENSBTAG00000019794	SYPL1	1	1	-0.135	-0.135	Decrease:1
ENSBTAG00000001599	SV2A	1	1	-0.135	-0.135	Increase:1
ENSBTAG00000006801	TMEM106A	1	1	-0.135	-0.135	Gain:1
ENSBTAG00000015538	LEMD2	1	1	-0.135	-0.135	Increase:1
ENSBTAG00000016775	SLC27A1	1	1	-0.135	-0.135	Gain:1
ENSBTAG00000017024	PPARGC1A	1	1	-0.135	-0.135	Gain:1
ENSBTAG00000021294	VWA1	1	1	-0.135	-0.135	Gain:1
ENSBTAG00000000376	P2RX3	1	1	-0.134	-0.134	Lost:1
ENSBTAG00000006325	NUDCD3	1	1	-0.134	-0.134	Lost:1
ENSBTAG00000008202	PRKCSH	1	1	-0.134	-0.134	Lost:1
ENSBTAG00000013167	SIGLEC1	1	1	-0.134	-0.134	Decrease:1
ENSBTAG00000014158	CCNT2	1	1	-0.134	-0.134	Lost:1
ENSBTAG00000020232	REXO1	1	1	-0.134	-0.134	Lost:1
ENSBTAG00000034402	ACE2	1	1	-0.134	-0.134	Lost:1
ENSBTAG00000001233	MPZL3	1	1	-0.134	-0.134	Gain:1
ENSBTAG00000007216	DPF1	1	1	-0.134	-0.134	Gain:1
ENSBTAG00000012156	NAIF1	1	1	-0.134	-0.134	Increase:1
ENSBTAG00000012217	PLA2G2F	1	1	-0.134	-0.134	Increase:1
ENSBTAG00000019667	RNF187	1	1	-0.134	-0.134	Gain:1
ENSBTAG00000000387	NICN1	1	1	-0.133	-0.133	Decrease:1
ENSBTAG00000002748	TMEM55B	1	1	-0.133	-0.133	Decrease:1
ENSBTAG00000004603	PHC2	1	1	-0.133	-0.133	Decrease:1
ENSBTAG00000013187	DLG5	1	1	-0.133	-0.133	Lost:1
ENSBTAG00000045887	EPB49	1	1	-0.133	-0.133	Lost:1
ENSBTAG00000003490	ELMO1	1	1	-0.133	-0.133	Increase:1
ENSBTAG00000008079	NRBP2	1	1	-0.133	-0.133	Gain:1
ENSBTAG00000011374	S1PR3	1	1	-0.133	-0.133	Increase:1
ENSBTAG00000030836	ZNF295	1	1	-0.133	-0.133	Increase:1
ENSBTAG00000043993	C1H21orf62	1	1	-0.133	-0.133	Gain:1
ENSBTAG00000008845	INTS9	1	1	-0.132	-0.132	Decrease:1
ENSBTAG00000011729	STARD3	1	1	-0.132	-0.132	Decrease:1
ENSBTAG00000016121	KRT75	1	1	-0.132	-0.132	Decrease:1
ENSBTAG00000016805	SGMS2	1	1	-0.132	-0.132	Decrease:1
ENSBTAG00000021002	ACP2	1	1	-0.132	-0.132	Decrease:1
ENSBTAG00000002233	CPNE2	1	1	-0.132	-0.132	Gain:1
ENSBTAG00000002769	AP1G1	1	1	-0.132	-0.132	Gain:1
ENSBTAG00000006957	SLC2A8	1	1	-0.132	-0.132	Gain:1
ENSBTAG00000006989	SEMA4F	1	1	-0.132	-0.132	Gain:1
ENSBTAG00000017767	GPR173	1	1	-0.132	-0.132	Gain:1
ENSBTAG00000021120	SMYD1	2	1	-0.066	-0.132	Increase:1
ENSBTAG00000046670	MLX	1	1	-0.132	-0.132	Gain:1
ENSBTAG00000005999	FSD1	1	1	-0.131	-0.131	Lost:1
ENSBTAG00000007348	STRA6	1	1	-0.131	-0.131	Lost:1
ENSBTAG00000009017	NR5A1	1	1	-0.131	-0.131	Lost:1
ENSBTAG00000021250	RALBP1	1	1	-0.131	-0.131	Lost:1
ENSBTAG00000001776	SIRT2	1	1	-0.131	-0.131	Increase:1
ENSBTAG00000003958	TMEM220	1	1	-0.131	-0.131	Increase:1
ENSBTAG00000004436	PPT2	1	1	-0.131	-0.131	Gain:1
ENSBTAG00000006730	SUSD2	1	1	-0.131	-0.131	Increase:1
ENSBTAG00000015534	LYPLAL1	1	1	-0.131	-0.131	Gain:1
ENSBTAG00000016662	CPS1	1	1	-0.131	-0.131	Gain:1

Supplementary Table 1 – List of all genes predicted to be affected by miR-2893 polymorphism between B. primigenius and B. taurus, ranked with SSr score.

Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000017256	CD2	1	1	-0.131	-0.131	Gain:1
ENSBTAG00000021656	SPECC1L	1	1	-0.131	-0.131	Gain:1
ENSBTAG00000047502	FKBP5	1	1	-0.131	-0.131	Gain:1
ENSBTAG00000006392	TTC7B	1	1	-0.13	-0.13	Decrease:1
ENSBTAG00000007343	PDLIM7	1	1	-0.13	-0.13	Lost:1
ENSBTAG00000014401	SORBS3	1	1	-0.13	-0.13	Lost:1
ENSBTAG00000005105	PAFAH2	1	1	-0.13	-0.13	Increase:1
ENSBTAG00000005685	HSD11B2	1	1	-0.13	-0.13	Gain:1
ENSBTAG00000008504	SYNGR3	1	1	-0.13	-0.13	Increase:1
ENSBTAG00000009542	ZC3H10	1	1	-0.13	-0.13	Gain:1
ENSBTAG00000013745	ITGA5	1	1	-0.13	-0.13	Gain:1
ENSBTAG00000018467	C10H14orf45	1	1	-0.13	-0.13	Gain:1
ENSBTAG00000013273	PIGL	1	1	-0.129	-0.129	Decrease:1
ENSBTAG00000019686	NCKAP1L	1	1	-0.129	-0.129	Lost:1
ENSBTAG00000003712	FAM89B	1	1	-0.129	-0.129	Gain:1
ENSBTAG00000005186	DBNDD2	1	1	-0.129	-0.129	Gain:1
ENSBTAG00000008089	AMMECR1L	1	1	-0.129	-0.129	Increase:1
ENSBTAG00000015880	PRIMA1	1	1	-0.128	-0.128	Decrease:1
ENSBTAG00000018176	C19H17orf62	1	1	-0.128	-0.128	Decrease:1
ENSBTAG00000019125	SLC1A1	1	1	-0.128	-0.128	Decrease:1
ENSBTAG00000011124	LHX3	1	1	-0.128	-0.128	Gain:1
ENSBTAG00000015609	PREX1	1	1	-0.128	-0.128	Increase:1
ENSBTAG00000018281	GPX7	1	1	-0.128	-0.128	Gain:1
ENSBTAG00000026963	NCALD	1	1	-0.128	-0.128	Gain:1
ENSBTAG00000000399	NANOS3	1	1	-0.127	-0.127	Lost:1
ENSBTAG00000000815	EPHA2	1	1	-0.127	-0.127	Lost:1
ENSBTAG00000004310	UBR7	1	1	-0.127	-0.127	Decrease:1
ENSBTAG00000017158	VSNL1	1	1	-0.127	-0.127	Decrease:1
ENSBTAG00000020379	KIAA0317	1	1	-0.127	-0.127	Lost:1
ENSBTAG00000006170	ZNF76	1	1	-0.127	-0.127	Increase:1
ENSBTAG00000007012	ZNF3	1	1	-0.127	-0.127	Gain:1
ENSBTAG00000010964	STARD5	1	1	-0.127	-0.127	Gain:1
ENSBTAG00000012215		1	1	-0.127	-0.127	Increase:1
ENSBTAG00000012314	LDLR	1	1	-0.127	-0.127	Gain:1
ENSBTAG00000012827	TTLL11	1	1	-0.127	-0.127	Gain:1
ENSBTAG00000039335	ARRDC2	1	1	-0.127	-0.127	Increase:1
ENSBTAG00000008802	GID4	1	1	-0.126	-0.126	Lost:1
ENSBTAG00000011990	ALOX15	1	1	-0.126	-0.126	Decrease:1
ENSBTAG00000017584	PLCG1	1	1	-0.126	-0.126	Lost:1
ENSBTAG00000031885	TMEM251	1	1	-0.126	-0.126	Decrease:1
ENSBTAG00000000306	ITK	1	1	-0.126	-0.126	Gain:1
ENSBTAG00000002561	CCDC120	1	1	-0.126	-0.126	Gain:1
ENSBTAG00000003576	POLL	1	1	-0.126	-0.126	Gain:1
ENSBTAG00000019563	C5H22orf23	1	1	-0.126	-0.126	Gain:1
ENSBTAG00000021573	DCAF12	1	1	-0.126	-0.126	Gain:1
ENSBTAG00000021799	RCN3	1	1	-0.126	-0.126	Increase:1
ENSBTAG00000009998	GALNTL1	1	1	-0.125	-0.125	Lost:1
ENSBTAG00000000014	TXN2	1	1	-0.125	-0.125	Increase:1
ENSBTAG00000001731	GLYR1	1	1	-0.125	-0.125	Increase:1
ENSBTAG00000005086	RPRD1B	1	1	-0.125	-0.125	Increase:1
ENSBTAG00000009770	GPD2	1	1	-0.125	-0.125	Gain:1
ENSBTAG00000020073	NCEH1	1	1	-0.125	-0.125	Gain:1

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Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000021282	SGCE	1	1	-0.125	-0.125	Gain:1
ENSBTAG00000024470	SH2D2A	1	1	-0.125	-0.125	Gain:1
ENSBTAG00000026080	LAIR1	1	1	-0.125	-0.125	Gain:1
ENSBTAG00000047229	CRIP1	1	1	-0.125	-0.125	Gain:1
ENSBTAG00000003638	ZNF215	1	1	-0.124	-0.124	Decrease:1
ENSBTAG00000005471	RHCG	1	1	-0.124	-0.124	Lost:1
ENSBTAG00000021912	DUSP7	1	1	-0.124	-0.124	Lost:1
ENSBTAG00000045895		1	1	-0.124	-0.124	Lost:1
ENSBTAG00000003040	RALGAPB	1	1	-0.124	-0.124	Gain:1
ENSBTAG00000003168	HNRNPUL1	1	1	-0.124	-0.124	Gain:1
ENSBTAG00000003388	DPM2	1	1	-0.124	-0.124	Gain:1
ENSBTAG00000003836	ADAM19	1	1	-0.124	-0.124	Gain:1
ENSBTAG00000004635	LLGL1	1	1	-0.124	-0.124	Gain:1
ENSBTAG00000012757	GCNT1	1	1	-0.124	-0.124	Increase:1
ENSBTAG00000013764	OPTC	1	1	-0.124	-0.124	Gain:1
ENSBTAG00000021969	KLHL29	1	1	-0.124	-0.124	Increase:1
ENSBTAG00000000090	SEC31B	1	1	-0.123	-0.123	Decrease:1
ENSBTAG00000030369	IFFO1	1	1	-0.123	-0.123	Lost:1
ENSBTAG00000004688	DHCR24	1	1	-0.123	-0.123	Gain:1
ENSBTAG00000006735	STAC	1	1	-0.123	-0.123	Gain:1
ENSBTAG00000016037	BCKDHA	1	1	-0.123	-0.123	Increase:1
ENSBTAG00000018375	ATCAY	1	1	-0.123	-0.123	Increase:1
ENSBTAG00000007605	FKBP4	1	1	-0.122	-0.122	Lost:1
ENSBTAG00000009048	EFHD2	1	1	-0.122	-0.122	Lost:1
ENSBTAG00000013988	BID	1	1	-0.122	-0.122	Lost:1
ENSBTAG00000016731	TMEM42	1	1	-0.122	-0.122	Lost:1
ENSBTAG00000021435	MAFF	1	1	-0.122	-0.122	Lost:1
ENSBTAG00000002485	TNS1	1	1	-0.122	-0.122	Increase:1
ENSBTAG00000019070	PMP22	1	1	-0.122	-0.122	Increase:1
ENSBTAG00000021879	VCL	1	1	-0.122	-0.122	Increase:1
ENSBTAG00000023851	FAM102A	1	1	-0.122	-0.122	Gain:1
ENSBTAG00000023632	FBXL8	1	1	-0.121	-0.121	Decrease:1
ENSBTAG00000001763	NR2C2AP	1	1	-0.121	-0.121	Gain:1
ENSBTAG00000002103	LOC100337091	1	1	-0.121	-0.121	Gain:1
ENSBTAG00000003864	SLC13A4	1	1	-0.121	-0.121	Increase:1
ENSBTAG00000008053	WDFY2	1	1	-0.121	-0.121	Gain:1
ENSBTAG00000019203	S100A4	1	1	-0.121	-0.121	Gain:1
ENSBTAG00000039172	RABGAP1	1	1	-0.121	-0.121	Increase:1
ENSBTAG00000005290	CLDN2	1	1	-0.12	-0.12	Decrease:1
ENSBTAG00000008504	SYNGR3	1	1	-0.12	-0.12	Decrease:1
ENSBTAG00000019780	USP5	1	1	-0.12	-0.12	Lost:1
ENSBTAG00000001764	NCAN	1	1	-0.12	-0.12	Gain:1
ENSBTAG00000004400	PRRC2B	1	1	-0.12	-0.12	Gain:1
ENSBTAG00000008371	FBXL20	1	1	-0.12	-0.12	Gain:1
ENSBTAG00000013526	EFTUD2	1	1	-0.12	-0.12	Increase:1
ENSBTAG00000013550	PRKCG	1	1	-0.12	-0.12	Gain:1
ENSBTAG00000017116	RASD2	1	1	-0.12	-0.12	Increase:1
ENSBTAG00000019887		1	1	-0.12	-0.12	Gain:1
ENSBTAG00000021160	AP1M2	1	1	-0.12	-0.12	Gain:1
ENSBTAG00000021360		1	1	-0.12	-0.12	Increase:1
ENSBTAG00000007304	CLK3	1	1	-0.119	-0.119	Decrease:1
ENSBTAG00000012199	IMP3	1	1	-0.119	-0.119	Lost:1

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Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000014523	DIRAS2	1	1	-0.119	-0.119	Decrease:1
ENSBTAG00000014861	SLC20A2	1	1	-0.119	-0.119	Lost:1
ENSBTAG00000015609	PREX1	1	1	-0.119	-0.119	Decrease:1
ENSBTAG00000016235	RNASEH1	1	1	-0.119	-0.119	Lost:1
ENSBTAG00000022622	CISH	1	1	-0.119	-0.119	Decrease:1
ENSBTAG00000006022	ATP6V0E2	1	1	-0.119	-0.119	Gain:1
ENSBTAG00000006392	TTC7B	1	1	-0.119	-0.119	Increase:1
ENSBTAG00000019665	IL1RN	1	1	-0.119	-0.119	Gain:1
ENSBTAG00000001793	HSD11B1L	1	1	-0.118	-0.118	Decrease:1
ENSBTAG00000011324	EMILIN1	1	1	-0.118	-0.118	Lost:1
ENSBTAG00000019097	CNTNAP1	1	1	-0.118	-0.118	Lost:1
ENSBTAG00000009481	C3H1orf87	1	1	-0.118	-0.118	Gain:1
ENSBTAG00000009984	SGPL1	1	1	-0.118	-0.118	Gain:1
ENSBTAG00000013004	ITIH5	1	1	-0.118	-0.118	Gain:1
ENSBTAG00000015354	ZDHHC9	1	1	-0.118	-0.118	Gain:1
ENSBTAG00000012921	KIF24	1	1	-0.117	-0.117	Decrease:1
ENSBTAG00000013109	STIM1	1	1	-0.117	-0.117	Decrease:1
ENSBTAG00000016823	CSNK1G1	1	1	-0.117	-0.117	Decrease:1
ENSBTAG00000030425	ID3	1	1	-0.117	-0.117	Lost:1
ENSBTAG00000037735	GPR77	1	1	-0.117	-0.117	Lost:1
ENSBTAG00000001529	WHSC1L1	1	1	-0.117	-0.117	Gain:1
ENSBTAG00000002847	D2HGDH	1	1	-0.117	-0.117	Increase:1
ENSBTAG00000015724	BPIFB1	1	1	-0.117	-0.117	Gain:1
ENSBTAG00000016128	GGA3	1	1	-0.117	-0.117	Gain:1
ENSBTAG00000021956	ISCA2	1	1	-0.117	-0.117	Increase:1
ENSBTAG00000031188	ADIG	1	1	-0.117	-0.117	Increase:1
ENSBTAG00000031267	SERPINB9	1	1	-0.117	-0.117	Gain:1
ENSBTAG00000002472	CASP9	1	1	-0.116	-0.116	Lost:1
ENSBTAG00000003894	NDRG4	1	1	-0.116	-0.116	Lost:1
ENSBTAG00000010103	TRIM9	1	1	-0.116	-0.116	Lost:1
ENSBTAG00000019008	FBXL16	1	1	-0.116	-0.116	Lost:1
ENSBTAG00000020755	SELP	1	1	-0.116	-0.116	Decrease:1
ENSBTAG00000005940	PRKAB1	1	1	-0.116	-0.116	Gain:1
ENSBTAG00000003052	PCSK7	1	1	-0.115	-0.115	Decrease:1
ENSBTAG00000016508	CTDSP2	1	1	-0.115	-0.115	Lost:1
ENSBTAG00000019845	USP30	1	1	-0.115	-0.115	Lost:1
ENSBTAG00000026819	HDAC7	1	1	-0.115	-0.115	Decrease:1
ENSBTAG00000004305	RGS16	1	1	-0.115	-0.115	Gain:1
ENSBTAG00000008216	RRM2	1	1	-0.115	-0.115	Increase:1
ENSBTAG00000038831	PHYHD1	1	1	-0.115	-0.115	Gain:1
ENSBTAG00000043553		1	1	-0.115	-0.115	Increase:1
ENSBTAG00000015513	DOCK5	1	1	-0.114	-0.114	Decrease:1
ENSBTAG00000038132	AIFM3	1	1	-0.114	-0.114	Lost:1
ENSBTAG00000001662	EHD3	1	1	-0.114	-0.114	Increase:1
ENSBTAG00000010682	DDR1	1	1	-0.114	-0.114	Gain:1
ENSBTAG00000023018	PARG	1	1	-0.114	-0.114	Gain:1
ENSBTAG00000000042	PYCR1	1	1	-0.113	-0.113	Decrease:1
ENSBTAG00000009163	TMEM234	1	1	-0.113	-0.113	Lost:1
ENSBTAG00000009574		1	1	-0.113	-0.113	Lost:1
ENSBTAG00000010545	KXD1	1	1	-0.113	-0.113	Decrease:1
ENSBTAG00000018796	RABGGTA	1	1	-0.113	-0.113	Lost:1
ENSBTAG00000031849	TMEM119	1	1	-0.113	-0.113	Decrease:1

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Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000007884	SREBF1	1	1	-0.113	-0.113	Increase:1
ENSBTAG00000019851	PPP2R1A	1	1	-0.113	-0.113	Gain:1
ENSBTAG00000021141	CD8A	1	1	-0.113	-0.113	Gain:1
ENSBTAG00000030209	ARHGDIA	1	1	-0.113	-0.113	Increase:1
ENSBTAG00000038700	FAM124B	1	1	-0.113	-0.113	Gain:1
ENSBTAG00000002041	SASH3	1	1	-0.112	-0.112	Increase:1
ENSBTAG00000007193	CCL16	1	1	-0.112	-0.112	Increase:1
ENSBTAG00000021518	TMPRSS4	1	1	-0.112	-0.112	Increase:1
ENSBTAG00000001599	SV2A	1	1	-0.111	-0.111	Decrease:1
ENSBTAG00000006305	AK1	1	1	-0.111	-0.111	Lost:1
ENSBTAG00000008250	SPRY4	1	1	-0.111	-0.111	Lost:1
ENSBTAG00000010775	POGK	1	1	-0.111	-0.111	Decrease:1
ENSBTAG00000011692	C25H16orf45	1	1	-0.111	-0.111	Lost:1
ENSBTAG00000000139	SETD8	1	1	-0.111	-0.111	Increase:1
ENSBTAG00000008845	INTS9	1	1	-0.111	-0.111	Increase:1
ENSBTAG00000013607	WDR1	1	1	-0.111	-0.111	Increase:1
ENSBTAG00000015352	MTMR4	1	1	-0.111	-0.111	Gain:1
ENSBTAG00000017423	TMEM214	1	1	-0.111	-0.111	Increase:1
ENSBTAG00000019436	SLC39A13	1	1	-0.111	-0.111	Gain:1
ENSBTAG00000021428	CNDP1	1	1	-0.111	-0.111	Increase:1
ENSBTAG00000027654	EIF4EBP1	1	1	-0.111	-0.111	Increase:1
ENSBTAG00000000675	PGS1	1	1	-0.11	-0.11	Decrease:1
ENSBTAG00000008396	MRPL54	1	1	-0.11	-0.11	Decrease:1
ENSBTAG00000009726	KLHL12	1	1	-0.11	-0.11	Lost:1
ENSBTAG00000012745	PPAN	1	1	-0.11	-0.11	Lost:1
ENSBTAG00000020725	CNGA2	1	1	-0.11	-0.11	Decrease:1
ENSBTAG00000000221	RBM34	1	1	-0.11	-0.11	Gain:1
ENSBTAG00000013907	CRP	1	1	-0.11	-0.11	Increase:1
ENSBTAG00000016152	DAB2	1	1	-0.109	-0.109	Lost:1
ENSBTAG00000016743	DNTTIP1	1	1	-0.109	-0.109	Decrease:1
ENSBTAG00000034689	ZNRF1	1	1	-0.109	-0.109	Lost:1
ENSBTAG00000003476	FEM1A	1	1	-0.109	-0.109	Gain:1
ENSBTAG00000006140	PEX11A	1	1	-0.109	-0.109	Gain:1
ENSBTAG00000010193	RAB7A	1	1	-0.109	-0.109	Gain:1
ENSBTAG00000011399	YARS2	1	1	-0.109	-0.109	Increase:1
ENSBTAG00000031146	LOC523388	1	1	-0.109	-0.109	Gain:1
ENSBTAG00000031252	CD82	1	1	-0.109	-0.109	Gain:1
ENSBTAG00000038733	EFS	1	1	-0.109	-0.109	Increase:1
ENSBTAG00000001551	PLEKHG3	1	1	-0.108	-0.108	Lost:1
ENSBTAG00000004004	CSDC2	1	1	-0.108	-0.108	Lost:1
ENSBTAG00000008951	ALPL	1	1	-0.108	-0.108	Decrease:1
ENSBTAG00000012585	RAB3GAP2	1	1	-0.108	-0.108	Lost:1
ENSBTAG00000014966	PLXNB2	1	1	-0.108	-0.108	Lost:1
ENSBTAG00000017636		1	1	-0.108	-0.108	Decrease:1
ENSBTAG00000018364	TMEM132A	1	1	-0.108	-0.108	Lost:1
ENSBTAG00000005424	KCNC1	1	1	-0.108	-0.108	Gain:1
ENSBTAG00000007581	ADORA2B	1	1	-0.108	-0.108	Gain:1
ENSBTAG00000008773	GUCY2D	1	1	-0.108	-0.108	Increase:1
ENSBTAG00000010785	FAS	1	1	-0.108	-0.108	Gain:1
ENSBTAG00000047127	C7H19orf25	1	1	-0.108	-0.108	Gain:1
ENSBTAG00000007386	NUDCD1	1	1	-0.107	-0.107	Decrease:1
ENSBTAG00000023453	C18H19orf54	1	1	-0.107	-0.107	Decrease:1

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Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000006035	PPP1R1B	1	1	-0.107	-0.107	Gain:1
ENSBTAG00000015032	CD14	1	1	-0.107	-0.107	Gain:1
ENSBTAG00000005431	LMCD1	1	1	-0.106	-0.106	Decrease:1
ENSBTAG00000008685	TTC15	1	1	-0.106	-0.106	Lost:1
ENSBTAG00000030319	GBGT1	1	1	-0.106	-0.106	Lost:1
ENSBTAG00000039163	HIST1H1D	1	1	-0.106	-0.106	Decrease:1
ENSBTAG00000012771	CSF1R	1	1	-0.106	-0.106	Increase:1
ENSBTAG00000020530	MTIF3	1	1	-0.106	-0.106	Gain:1
ENSBTAG00000009543	ESYT1	1	1	-0.105	-0.105	Increase:1
ENSBTAG00000039765		1	1	-0.105	-0.105	Gain:1
ENSBTAG00000000764	GIPC1	1	1	-0.104	-0.104	Decrease:1
ENSBTAG00000003794	GNAO1	1	1	-0.104	-0.104	Lost:1
ENSBTAG00000004464	C19H17orf53	1	1	-0.104	-0.104	Decrease:1
ENSBTAG00000005107	CRADD	1	1	-0.104	-0.104	Lost:1
ENSBTAG00000011186	BEST1	1	1	-0.104	-0.104	Decrease:1
ENSBTAG00000006173	CCDC116	1	1	-0.104	-0.104	Increase:1
ENSBTAG00000011760	MRPL14	1	1	-0.104	-0.104	Gain:1
ENSBTAG00000012451	HLA-DMB	1	1	-0.104	-0.104	Gain:1
ENSBTAG00000015751	MEOX1	1	1	-0.104	-0.104	Gain:1
ENSBTAG00000031765	C25H16orf93	1	1	-0.104	-0.104	Gain:1
ENSBTAG00000009639	SMPD3	1	1	-0.103	-0.103	Lost:1
ENSBTAG00000019218	ATP6V0A1	1	1	-0.103	-0.103	Gain:1
ENSBTAG00000021461	PSMD3	1	1	-0.103	-0.103	Gain:1
ENSBTAG00000025088	RCVRN	1	1	-0.103	-0.103	Increase:1
ENSBTAG00000002960	WDR82	1	1	-0.102	-0.102	Decrease:1
ENSBTAG00000005419	ABP1	1	1	-0.102	-0.102	Gain:1
ENSBTAG00000008966	TSPAN7	1	1	-0.102	-0.102	Gain:1
ENSBTAG00000009899	CHID1	1	1	-0.102	-0.102	Increase:1
ENSBTAG00000011800	ABCG4	1	1	-0.102	-0.102	Gain:1
ENSBTAG00000017996	EGLN2	1	1	-0.102	-0.102	Gain:1
ENSBTAG00000019086	TELO2	1	1	-0.102	-0.102	Gain:1
ENSBTAG00000019225	SLC39A14	1	1	-0.102	-0.102	Increase:1
ENSBTAG00000027017	SIX3	1	1	-0.102	-0.102	Gain:1
ENSBTAG00000013534	GFAP	1	1	-0.101	-0.101	Lost:1
ENSBTAG00000013914	PET112	1	1	-0.101	-0.101	Decrease:1
ENSBTAG00000015595	MCM5	1	1	-0.101	-0.101	Lost:1
ENSBTAG00000018488	AFF1	1	1	-0.101	-0.101	Lost:1
ENSBTAG00000009436	TMEM79	1	1	-0.101	-0.101	Increase:1
ENSBTAG00000013778	WDR63	1	1	-0.101	-0.101	Gain:1
ENSBTAG00000014526	MOB3A	1	1	-0.101	-0.101	Gain:1
ENSBTAG00000019509	NUDT5	1	1	-0.101	-0.101	Gain:1
ENSBTAG00000027387	NRSN2	1	1	-0.101	-0.101	Gain:1
ENSBTAG00000006769	HSD3B1	1	1	-0.1	-0.1	Lost:1
ENSBTAG00000027317	RNF114	1	1	-0.1	-0.1	Decrease:1
ENSBTAG00000007644	GNG7	1	1	-0.1	-0.1	Increase:1
ENSBTAG00000010653	FAM73B	1	1	-0.1	-0.1	Increase:1
ENSBTAG00000016956	GANAB	1	1	-0.1	-0.1	Gain:1
ENSBTAG00000020465	FERMT1	1	1	-0.1	-0.1	Gain:1
ENSBTAG00000024539	SPSB1	1	1	-0.1	-0.1	Increase:1
ENSBTAG00000007096	GAS8	1	1	-0.099	-0.099	Lost:1
ENSBTAG00000009075	RNF207	1	1	-0.099	-0.099	Lost:1
ENSBTAG00000002960	WDR82	1	1	-0.099	-0.099	Increase:1

Supplementary Table 1 – List of all genes predicted to be affected by miR-2893 polymorphism between B. primigenius and B. taurus, ranked with SSr score.

Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000008854		1	1	-0.099	-0.099	Increase:1
ENSBTAG00000021254	CENPI	1	1	-0.099	-0.099	Gain:1
ENSBTAG00000000807	TMED3	1	1	-0.098	-0.098	Decrease:1
ENSBTAG00000006920	ABCF3	1	1	-0.098	-0.098	Decrease:1
ENSBTAG00000010001	RHOT1	1	1	-0.098	-0.098	Decrease:1
ENSBTAG00000010812	P2RX4	1	1	-0.098	-0.098	Decrease:1
ENSBTAG00000000898	F2RL2	1	1	-0.098	-0.098	Gain:1
ENSBTAG00000003829	HPN	1	1	-0.098	-0.098	Increase:1
ENSBTAG00000020236	NECAB2	1	1	-0.098	-0.098	Gain:1
ENSBTAG00000006173	CCDC116	1	1	-0.097	-0.097	Decrease:1
ENSBTAG00000005356	ST5	1	1	-0.097	-0.097	Increase:1
ENSBTAG00000016501	ARHGAP1	1	1	-0.097	-0.097	Gain:1
ENSBTAG00000035244	ANKRD39	1	1	-0.097	-0.097	Gain:1
ENSBTAG00000010338	FBXO36	1	1	-0.096	-0.096	Decrease:1
ENSBTAG00000002974	FMO2	1	1	-0.096	-0.096	Increase:1
ENSBTAG00000006982	RAB5C	1	1	-0.096	-0.096	Gain:1
ENSBTAG00000019290	PACSIN2	1	1	-0.096	-0.096	Gain:1
ENSBTAG00000022622	CISH	1	1	-0.096	-0.096	Increase:1
ENSBTAG00000004750	VSTM2L	1	1	-0.095	-0.095	Lost:1
ENSBTAG00000008380	ITGA11	1	1	-0.095	-0.095	Lost:1
ENSBTAG00000014769	GMEB2	1	1	-0.095	-0.095	Lost:1
ENSBTAG00000000054		1	1	-0.095	-0.095	Gain:1
ENSBTAG00000000500	PINX1	1	1	-0.095	-0.095	Increase:1
ENSBTAG00000010106	CCND3	1	1	-0.095	-0.095	Gain:1
ENSBTAG00000016833	CLPS	1	1	-0.095	-0.095	Gain:1
ENSBTAG00000019167	INPPL1	1	1	-0.095	-0.095	Gain:1
ENSBTAG00000024983	FBXO47	1	1	-0.095	-0.095	Increase:1
ENSBTAG00000030255	PDXP	1	1	-0.095	-0.095	Gain:1
ENSBTAG00000002697	KCTD10	1	1	-0.094	-0.094	Decrease:1
ENSBTAG00000006349	EXTL1	1	1	-0.094	-0.094	Lost:1
ENSBTAG00000000948	RAB2A	1	1	-0.094	-0.094	Gain:1
ENSBTAG00000047628	XPO7	1	1	-0.094	-0.094	Gain:1
ENSBTAG00000002039	FRMD8	1	1	-0.093	-0.093	Lost:1
ENSBTAG00000013112	C7H5orf15	1	1	-0.093	-0.093	Decrease:1
ENSBTAG00000000343	ZNHIT1	1	1	-0.093	-0.093	Gain:1
ENSBTAG00000010100	MED20	1	1	-0.093	-0.093	Increase:1
ENSBTAG00000014628	OAS2	1	1	-0.093	-0.093	Gain:1
ENSBTAG00000018373	DPYSL2	1	1	-0.093	-0.093	Gain:1
ENSBTAG00000039819	RPH3AL	1	1	-0.093	-0.093	Increase:1
ENSBTAG00000014603	VAMP1	1	1	-0.092	-0.092	Decrease:1
ENSBTAG00000021164	SLMAP	1	1	-0.092	-0.092	Decrease:1
ENSBTAG00000039635	CCDC97	1	1	-0.092	-0.092	Decrease:1
ENSBTAG00000001730	ODF3	1	1	-0.092	-0.092	Gain:1
ENSBTAG00000002704	POMT2	1	1	-0.092	-0.092	Gain:1
ENSBTAG00000007166	CAMKK1	1	1	-0.092	-0.092	Increase:1
ENSBTAG00000007599	IKBKB	1	1	-0.092	-0.092	Gain:1
ENSBTAG00000013330	TBC1D20	1	1	-0.092	-0.092	Gain:1
ENSBTAG00000002389	MED19	1	1	-0.091	-0.091	Lost:1
ENSBTAG00000007474	EIF3B	1	1	-0.091	-0.091	Lost:1
ENSBTAG00000008711	BOK	1	1	-0.091	-0.091	Decrease:1
ENSBTAG00000017452	RCAN3	1	1	-0.091	-0.091	Decrease:1
ENSBTAG00000000266	NAB1	1	1	-0.091	-0.091	Gain:1

Supplementary Table 1 – List of all genes predicted to be affected by miR-2893 polymorphism between B. primigenius and B. taurus, ranked with SSr score.

Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000014151	RCSD1	1	1	-0.091	-0.091	Gain:1
ENSBTAG00000014377	CHD3	1	1	-0.091	-0.091	Gain:1
ENSBTAG00000018873	TTPAL	1	1	-0.09	-0.09	Lost:1
ENSBTAG00000030593	RFTN1	1	1	-0.09	-0.09	Lost:1
ENSBTAG00000007365	NEIL1	1	1	-0.09	-0.09	Increase:1
ENSBTAG00000015758	C18H16orf57	1	1	-0.09	-0.09	Increase:1
ENSBTAG00000038116	TGOLN2	1	1	-0.09	-0.09	Gain:1
ENSBTAG00000039635	CCDC97	1	1	-0.09	-0.09	Increase:1
ENSBTAG00000005712	STX18	1	1	-0.089	-0.089	Lost:1
ENSBTAG00000015401	ATG4B	1	1	-0.089	-0.089	Lost:1
ENSBTAG00000017072	ZNF384	1	1	-0.089	-0.089	Decrease:1
ENSBTAG00000019379	TUSC5	1	1	-0.089	-0.089	Decrease:1
ENSBTAG00000031340	SLC6A20	1	1	-0.089	-0.089	Gain:1
ENSBTAG00000000933	KIAA1984	1	1	-0.088	-0.088	Gain:1
ENSBTAG00000006987	CERS3	1	1	-0.088	-0.088	Increase:1
ENSBTAG00000009431	SLC25A44	1	1	-0.088	-0.088	Gain:1
ENSBTAG00000011582	SERINC2	1	1	-0.087	-0.087	Lost:1
ENSBTAG00000017566	TUFT1	1	1	-0.087	-0.087	Decrease:1
ENSBTAG00000011105	SLC38A2	1	1	-0.087	-0.087	Increase:1
ENSBTAG00000045902	EPHB2	1	1	-0.087	-0.087	Gain:1
ENSBTAG00000014698	CARD11	1	1	-0.086	-0.086	Lost:1
ENSBTAG00000010371	CHAC1	1	1	-0.086	-0.086	Increase:1
ENSBTAG00000019040	PLBD2	1	1	-0.086	-0.086	Increase:1
ENSBTAG00000026708	PRSS35	1	1	-0.086	-0.086	Gain:1
ENSBTAG00000009036	SUPT6H	1	1	-0.085	-0.085	Gain:1
ENSBTAG00000013329	AP1M1	1	1	-0.085	-0.085	Gain:1
ENSBTAG00000020963	RASSF1	1	1	-0.084	-0.084	Decrease:1
ENSBTAG00000015345	BNIPL	1	1	-0.084	-0.084	Gain:1
ENSBTAG00000003745	WDR48	1	1	-0.083	-0.083	Increase:1
ENSBTAG00000019767	MIER2	1	1	-0.083	-0.083	Gain:1
ENSBTAG00000046644	HRAS	1	1	-0.083	-0.083	Gain:1
ENSBTAG00000011042	TMEM129	1	1	-0.082	-0.082	Lost:1
ENSBTAG00000008471	MX2	1	1	-0.082	-0.082	Gain:1
ENSBTAG00000012918	CRISP3	1	1	-0.082	-0.082	Increase:1
ENSBTAG00000015604	ZNF385A	1	1	-0.082	-0.082	Gain:1
ENSBTAG00000038595	MAGEB16	1	1	-0.082	-0.082	Gain:1
ENSBTAG00000003891	VAMP2	1	1	-0.081	-0.081	Gain:1
ENSBTAG00000017956	KCTD15	1	1	-0.081	-0.081	Gain:1
ENSBTAG00000018123	FBLN5	1	1	-0.081	-0.081	Gain:1
ENSBTAG00000022209	CABP2	1	1	-0.081	-0.081	Gain:1
ENSBTAG00000004294	EVI5L	1	1	-0.08	-0.08	Increase:1
ENSBTAG00000014122	FOXRED1	1	1	-0.08	-0.08	Gain:1
ENSBTAG00000016823	CSNK1G1	1	1	-0.08	-0.08	Increase:1
ENSBTAG00000001154	DGAT2	1	1	-0.079	-0.079	Increase:1
ENSBTAG00000006068	CC2D1A	1	1	-0.079	-0.079	Increase:1
ENSBTAG00000006070	RANBP3	1	1	-0.079	-0.079	Gain:1
ENSBTAG00000006262	LIMS2	1	1	-0.079	-0.079	Gain:1
ENSBTAG00000010541	ZNF346	1	1	-0.079	-0.079	Gain:1
ENSBTAG00000014091	ARHGEF3	1	1	-0.079	-0.079	Gain:1
ENSBTAG00000014221	RSG1	1	1	-0.079	-0.079	Gain:1
ENSBTAG00000020664	DNAJC14	1	1	-0.079	-0.079	Increase:1
ENSBTAG00000002092	PI16	1	1	-0.078	-0.078	Lost:1

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Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000016846	YWHAB	1	1	-0.078	-0.078	Decrease:1
ENSBTAG00000046724	CBX6	1	1	-0.078	-0.078	Lost:1
ENSBTAG00000003857		1	1	-0.078	-0.078	Gain:1
ENSBTAG00000020223	CASQ1	1	1	-0.078	-0.078	Gain:1
ENSBTAG00000021658	GRASP	1	1	-0.078	-0.078	Gain:1
ENSBTAG00000039161	ALDH3A2	1	1	-0.078	-0.078	Gain:1
ENSBTAG00000007644	GNG7	1	1	-0.077	-0.077	Decrease:1
ENSBTAG00000008840	HM13	1	1	-0.077	-0.077	Lost:1
ENSBTAG00000019869	DGCR8	1	1	-0.077	-0.077	Lost:1
ENSBTAG00000000387	NICN1	1	1	-0.077	-0.077	Increase:1
ENSBTAG00000018314	MED11	1	1	-0.077	-0.077	Gain:1
ENSBTAG00000030817	LMBR1	1	1	-0.077	-0.077	Gain:1
ENSBTAG00000006126	GTF3C1	1	1	-0.076	-0.076	Decrease:1
ENSBTAG00000012629	ZNF362	1	1	-0.076	-0.076	Lost:1
ENSBTAG00000015090	SGTA	1	1	-0.076	-0.076	Lost:1
ENSBTAG00000010885	TSPYL1	1	1	-0.076	-0.076	Increase:1
ENSBTAG00000016613	KCNH6	1	1	-0.076	-0.076	Gain:1
ENSBTAG00000016961	RAP2B	1	1	-0.076	-0.076	Gain:1
ENSBTAG00000018637	HDDC3	1	1	-0.076	-0.076	Gain:1
ENSBTAG00000026172	FAM84B	1	1	-0.076	-0.076	Gain:1
ENSBTAG00000030897	XRCC2	1	1	-0.076	-0.076	Gain:1
ENSBTAG00000008778	CHST13	1	1	-0.075	-0.075	Lost:1
ENSBTAG00000021741	RPS6KA2	1	1	-0.074	-0.074	Decrease:1
ENSBTAG00000034529	HMGA1	1	1	-0.074	-0.074	Decrease:1
ENSBTAG00000011359	CD7	1	1	-0.074	-0.074	Gain:1
ENSBTAG00000019838	SHC1	1	1	-0.074	-0.074	Gain:1
ENSBTAG00000008003	SMG7	1	1	-0.073	-0.073	Lost:1
ENSBTAG00000009337	PNMAL1	1	1	-0.073	-0.073	Gain:1
ENSBTAG00000015958	GOSR2	1	1	-0.072	-0.072	Gain:1
ENSBTAG00000016728	PLEKHG5	1	1	-0.072	-0.072	Gain:1
ENSBTAG00000021922	SMAP2	1	1	-0.072	-0.072	Gain:1
ENSBTAG00000011339	TAF8	1	1	-0.071	-0.071	Lost:1
ENSBTAG00000017622	SIVA1	1	1	-0.071	-0.071	Lost:1
ENSBTAG00000005246	DIP2B	1	1	-0.071	-0.071	Increase:1
ENSBTAG00000006464	GGA1	1	1	-0.071	-0.071	Gain:1
ENSBTAG00000006835	MCAM	1	1	-0.071	-0.071	Increase:1
ENSBTAG00000031679	HSD17B13	1	1	-0.071	-0.071	Gain:1
ENSBTAG00000039313	ZNF341	1	1	-0.071	-0.071	Increase:1
ENSBTAG00000004014		1	1	-0.07	-0.07	Lost:1
ENSBTAG00000020892	IL2RA	1	1	-0.07	-0.07	Decrease:1
ENSBTAG00000010278	STPG1	1	1	-0.07	-0.07	Increase:1
ENSBTAG00000011394	FAM214B	1	1	-0.07	-0.07	Gain:1
ENSBTAG00000011491	WDR81	1	1	-0.069	-0.069	Decrease:1
ENSBTAG00000022160	NAP1L4	1	1	-0.069	-0.069	Decrease:1
ENSBTAG00000039686	ACOT11	1	1	-0.069	-0.069	Gain:1
ENSBTAG00000015868	LIG4	1	1	-0.068	-0.068	Decrease:1
ENSBTAG00000002923	CX3CR1	1	1	-0.068	-0.068	Increase:1
ENSBTAG00000003012	TRAF1	1	1	-0.068	-0.068	Gain:1
ENSBTAG00000013066	IGF2	1	1	-0.067	-0.067	Decrease:1
ENSBTAG00000045510	EMC10	1	1	-0.067	-0.067	Gain:1
ENSBTAG00000015527	MYO1D	1	1	-0.066	-0.066	Decrease:1
ENSBTAG00000002357	TICAM2	1	1	-0.066	-0.066	Increase:1

Supplementary Table 1 – List of all genes predicted to be affected by miR-2893 polymorphism between B. primigenius and B. taurus, ranked with SSr score.

Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000008100	GOLGA7B	1	1	-0.066	-0.066	Increase:1
ENSBTAG00000016465	DHCR7	1	1	-0.066	-0.066	Gain:1
ENSBTAG00000001744	BET1L	1	1	-0.065	-0.065	Increase:1
ENSBTAG00000005533	PPP2R5D	1	1	-0.065	-0.065	Gain:1
ENSBTAG00000011193	C1QC	1	1	-0.065	-0.065	Gain:1
ENSBTAG00000016124	PACSIN1	1	1	-0.065	-0.065	Increase:1
ENSBTAG00000006789	FGD5	1	1	-0.064	-0.064	Decrease:1
ENSBTAG00000001601	PKM	1	1	-0.064	-0.064	Increase:1
ENSBTAG00000002586	TCF12	1	1	-0.064	-0.064	Gain:1
ENSBTAG00000020454	PROSAPIP1	1	1	-0.064	-0.064	Gain:1
ENSBTAG00000001104	CMTM4	1	1	-0.063	-0.063	Decrease:1
ENSBTAG00000007315	LARS2	1	1	-0.063	-0.063	Gain:1
ENSBTAG00000014143	ASB5	1	1	-0.063	-0.063	Gain:1
ENSBTAG00000018534	DGCR14	1	1	-0.063	-0.063	Gain:1
ENSBTAG00000019589	C1H21orf2	1	1	-0.062	-0.062	Lost:1
ENSBTAG00000002414	KCNJ10	2	1	-0.031	-0.062	Increase:1
ENSBTAG00000008553	B4GALNT3	1	1	-0.062	-0.062	Gain:1
ENSBTAG00000016511	POLDIP3	1	1	-0.062	-0.062	Gain:1
ENSBTAG00000003439	AKAP10	1	1	-0.061	-0.061	Decrease:1
ENSBTAG00000003936	PNKD	1	1	-0.061	-0.061	Gain:1
ENSBTAG00000009830	PLEKHB1	1	1	-0.061	-0.061	Increase:1
ENSBTAG00000031647	LRG1	1	1	-0.061	-0.061	Gain:1
ENSBTAG00000021709	SPI1	1	1	-0.06	-0.06	Decrease:1
ENSBTAG00000017086	GRB10	1	1	-0.059	-0.059	Decrease:1
ENSBTAG00000010916	LHFPL4	1	1	-0.059	-0.059	Increase:1
ENSBTAG00000003176	JAM3	1	1	-0.058	-0.058	Lost:1
ENSBTAG00000014324	ANTXR2	1	1	-0.058	-0.058	Decrease:1
ENSBTAG00000005754	PPM1K	1	1	-0.058	-0.058	Gain:1
ENSBTAG00000013414	BLVRA	1	1	-0.058	-0.058	Gain:1
ENSBTAG00000018421	WWP2	1	1	-0.058	-0.058	Increase:1
ENSBTAG00000008074	C1QTNF6	1	1	-0.057	-0.057	Lost:1
ENSBTAG00000011937	C17H12orf52	1	1	-0.057	-0.057	Gain:1
ENSBTAG00000014471	AKAP2	1	1	-0.057	-0.057	Increase:1
ENSBTAG00000030749	DNAJC6	1	1	-0.057	-0.057	Gain:1
ENSBTAG00000004147	FBXO18	1	1	-0.056	-0.056	Decrease:1
ENSBTAG00000010795	ATG14	1	1	-0.056	-0.056	Increase:1
ENSBTAG00000020898	CHST12	1	1	-0.056	-0.056	Gain:1
ENSBTAG00000011715	RECQL5	1	1	-0.055	-0.055	Lost:1
ENSBTAG00000013974	TMEM215	1	1	-0.055	-0.055	Increase:1
ENSBTAG00000017748	RNF44	1	1	-0.055	-0.055	Increase:1
ENSBTAG00000002414	KCNJ10	1	1	-0.054	-0.054	Decrease:1
ENSBTAG00000000675	PGS1	1	1	-0.054	-0.054	Increase:1
ENSBTAG00000003946	NECAB3	1	1	-0.054	-0.054	Gain:1
ENSBTAG00000014179	SLC12A5	1	1	-0.052	-0.052	Decrease:1
ENSBTAG00000007763	SLC1A4	1	1	-0.052	-0.052	Gain:1
ENSBTAG00000008353	CDKN1A	1	1	-0.052	-0.052	Gain:1
ENSBTAG00000013492	PRKAG3	1	1	-0.052	-0.052	Gain:1
ENSBTAG00000032914	SLC11A2	1	1	-0.052	-0.052	Gain:1
ENSBTAG00000002834	CCDC69	1	1	-0.051	-0.051	Decrease:1
ENSBTAG00000026429	DECR2	1	1	-0.05	-0.05	Lost:1
ENSBTAG00000040193	COLQ	1	1	-0.05	-0.05	Lost:1
ENSBTAG00000002823	MPZL1	1	1	-0.049	-0.049	Lost:1

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Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000003215	KIF3B	1	1	-0.049	-0.049	Lost:1
ENSBTAG00000037986	PNMA2	1	1	-0.049	-0.049	Gain:1
ENSBTAG00000004009	PMM1	1	1	-0.048	-0.048	Gain:1
ENSBTAG00000004147	FBXO18	1	1	-0.048	-0.048	Increase:1
ENSBTAG00000013907	CRP	1	1	-0.047	-0.047	Decrease:1
ENSBTAG00000021967	TMEM168	1	1	-0.047	-0.047	Gain:1
ENSBTAG00000025612	URM1	1	1	-0.046	-0.046	Decrease:1
ENSBTAG00000019334	KLC2	1	1	-0.045	-0.045	Increase:1
ENSBTAG00000020173	INPP5D	1	1	-0.045	-0.045	Gain:1
ENSBTAG00000001805	TWSG1	1	1	-0.044	-0.044	Decrease:1
ENSBTAG00000011476		1	1	-0.044	-0.044	Lost:1
ENSBTAG00000002816	SARM1	1	1	-0.044	-0.044	Gain:1
ENSBTAG00000011461	ADORA1	1	1	-0.044	-0.044	Gain:1
ENSBTAG00000026111	LBH	1	1	-0.043	-0.043	Gain:1
ENSBTAG00000027051	PTAFR	1	1	-0.042	-0.042	Lost:1
ENSBTAG00000005581	CCL25	1	1	-0.041	-0.041	Gain:1
ENSBTAG00000019265	AGK	1	1	-0.039	-0.039	Lost:1
ENSBTAG00000019066	FAM167A	1	1	-0.039	-0.039	Increase:1
ENSBTAG00000002261	LBX1	1	1	-0.038	-0.038	Lost:1
ENSBTAG00000004878	CAMKV	1	1	-0.037	-0.037	Gain:1
ENSBTAG00000008294	KCNJ2	1	1	-0.037	-0.037	Increase:1
ENSBTAG00000009856	ACAP3	1	1	-0.037	-0.037	Gain:1
ENSBTAG00000011994	NDEL1	1	1	-0.037	-0.037	Gain:1
ENSBTAG00000013038	UBE2L3	1	1	-0.036	-0.036	Lost:1
ENSBTAG00000015580	TLE3	1	1	-0.036	-0.036	Lost:1
ENSBTAG00000032763	RANBP10	1	1	-0.036	-0.036	Decrease:1
ENSBTAG00000001183	KLHL33	1	1	-0.036	-0.036	Gain:1
ENSBTAG00000015590	ICK	1	1	-0.036	-0.036	Gain:1
ENSBTAG00000017075	STX1A	1	1	-0.036	-0.036	Gain:1
ENSBTAG00000006355	SLC30A2	1	1	-0.034	-0.034	Gain:1
ENSBTAG00000006432	KCNE4	1	1	-0.033	-0.033	Lost:1
ENSBTAG00000000295	CLHC1	1	1	-0.033	-0.033	Gain:1
ENSBTAG00000002107	FZD1	1	1	-0.033	-0.033	Increase:1
ENSBTAG00000021289	POGZ	1	1	-0.033	-0.033	Increase:1
ENSBTAG00000002974	FMO2	1	1	-0.032	-0.032	Decrease:1
ENSBTAG00000014583	CALM3	1	1	-0.032	-0.032	Increase:1
ENSBTAG00000007498	ZGPAT	1	1	-0.031	-0.031	Gain:1
ENSBTAG00000010666	KHNYN	1	1	-0.031	-0.031	Gain:1
ENSBTAG00000019662	ATXN7L3	1	1	-0.029	-0.029	Increase:1
ENSBTAG00000007192	SIDT2	1	1	-0.028	-0.028	Gain:1
ENSBTAG00000018999	MGRN1	1	1	-0.028	-0.028	Increase:1
ENSBTAG00000007659	CORO2A	1	1	-0.027	-0.027	Gain:1
ENSBTAG00000003990	ITPRIP	1	1	-0.026	-0.026	Lost:1
ENSBTAG00000016208	TGM2	1	1	-0.024	-0.024	Increase:1
ENSBTAG00000005246	DIP2B	1	1	-0.02	-0.02	Decrease:1
ENSBTAG00000021120	SMYD1	1	1	-0.02	-0.02	Decrease:1
ENSBTAG00000010338	FBXO36	1	1	-0.02	-0.02	Increase:1
ENSBTAG00000017776	CHD2	1	1	-0.018	-0.018	Gain:1
ENSBTAG00000005892	ZAP70	1	1	-0.017	-0.017	Lost:1
ENSBTAG00000008237	TOLLIP	1	1	-0.017	-0.017	Gain:1
ENSBTAG00000017133	GINS4	1	1	-0.017	-0.017	Increase:1
ENSBTAG00000012991	PRUNE2	1	1	-0.014	-0.014	Increase:1

Supplementary Table 1 – List of all genes predicted to be affected by miR-2893 polymorphism between B. primigenius and B. taurus, ranked with SSr score.

Ensembl ID	gene name	PS	CS	TgS	SSR	event
ENSBTAG00000001030	MTMR3	1	1	-0.011	-0.011	Decrease:1
ENSBTAG00000001698	CHTF8	1	1	-0.011	-0.011	Lost:1
ENSBTAG00000013974	TMEM215	1	1	-0.01	-0.01	Decrease:1
ENSBTAG00000014471	AKAP2	1	1	-0.01	-0.01	Decrease:1
ENSBTAG00000008294	KCNJ2	1	1	-0.009	-0.009	Decrease:1
ENSBTAG00000018761	C11H2orf18	1	1	-0.008	-0.008	Gain:1
ENSBTAG00000017086	GRB10	1	1	-0.005	-0.005	Increase:1
ENSBTAG00000017748	RNF44	1	1	-0.002	-0.002	Decrease:1
ENSBTAG00000006738	GPR68	1	1	-0.001	-0.001	Increase:1

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between *B.* taurus and *B. primigenius*

List of all genes having polymorphic binding sites between *B. primigenius* and *B. taurus*. Rankings are based on the SSr score.

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000007194	GUCA2B	5	1	-1.04	-5.200	Lost:5
ENSBTAG00000032995	LELP1	9	9	-1.663	-1.663	Gain:9
ENSBTAG00000007117	CTC1	10	13	-2.015	-1.550	Lost:10
ENSBTAG00000008906	PCP2	7	5	-1.09	-1.526	Lost:7
ENSBTAG00000037687	GPR111	14	29	-2.594	-1.252	Increase:2 Decrease:3
ENSBTAG00000038650	MS4A7	13	23	-2.046	-1.156	Lost:13
ENSBTAG00000044027	ITGBL1	5	5	-1.081	-1.081	Gain:4 Lost:1
ENSBTAG00000012721	HOGA1	9	17	-1.997	-1.057	Gain:9
ENSBTAG00000003898	HMGCS2	13	33	-2.297	-0.905	Increase:2 Gain:11
ENSBTAG00000016667	ZBTB46	2	1	-0.449	-0.898	Gain:2
ENSBTAG00000017851	RXRA	6	8	-1.133	-0.850	Gain:4
ENSBTAG00000032880	PRM2	4	5	-0.938	-0.750	Gain:4
ENSBTAG00000026886	MP68	3	3	-0.74	-0.740	Gain:3
ENSBTAG00000014149	LCN2	6	13	-1.478	-0.682	Lost:6
ENSBTAG00000010645	BOLA-DRA	9	25	-1.878	-0.676	Gain:5 Lost:4
ENSBTAG00000013492	PRKAG3	23	88	-2.522	-0.659	Increase:6 Decrease:1
ENSBTAG00000012177	SNRPD2	2	2	-0.64	-0.640	Gain:2
ENSBTAG00000000986	USH1C	9	29	-1.804	-0.560	Increase:1 Gain:6 Lost:2
ENSBTAG00000012815	CLEC12A	4	6	-0.755	-0.503	Lost:4
ENSBTAG00000030932	LOC50834 7	16	70	-2.035	-0.465	Gain:5 Lost:11
ENSBTAG00000046406	R3HDM4	10	62	-2.832	-0.457	Increase:4 Decrease:1
ENSBTAG00000003941	AP1AR	16	124	-3.44	-0.444	Increase:4 Decrease:2
ENSBTAG00000010990	LHX2	8	47	-2.35	-0.400	Decrease:3 Gain:3 Lost:2

Supplementary table 2 – SSr-ranked genes with 3’UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000032997	LOR	6	23	-1.36	-0.355	Lost:6
ENSBTAG00000017468	NUCB2	3	7	-0.819	-0.351	Gain:2 Lost:1
ENSBTAG00000014784	NT5DC2	3	4	-0.439	-0.329	Gain:3
ENSBTAG00000031962	RAB20	2	3	-0.478	-0.319	Gain:2
ENSBTAG00000021987	GPX5	11	70	-1.898	-0.298	Increase:1 Gain:8 Lost:2
ENSBTAG00000021456	MUS81	11	52	-1.4	-0.296	Gain:10 Lost:1
ENSBTAG00000005963	MAT1A	19	163	-2.512	-0.293	Increase:1 Decrease:11
ENSBTAG00000034366	RGS2	9	11	-0.345	-0.282	Gain:7 Lost:2
ENSBTAG00000010103	TRIM9	7	58	-2.308	-0.279	Gain:7
ENSBTAG00000031824	RBM19	9	52	-1.57	-0.272	Gain:1 Lost:8
ENSBTAG00000002655	ZWINT	6	39	-1.648	-0.254	Gain:6
ENSBTAG00000021836	TCEA2	4	21	-1.326	-0.253	Gain:2 Lost:2
ENSBTAG00000037815	HBE1	1	1	-0.245	-0.245	Lost:1
ENSBTAG00000009401	MTRR	1	1	-0.242	-0.242	Lost:1
ENSBTAG00000038716	SKI	4	18	-1.064	-0.236	Gain:3 Lost:1
ENSBTAG00000008771	MYEF2	1	1	-0.236	-0.236	Lost:1
ENSBTAG00000019203	S100A4	4	8	-0.472	-0.236	Gain:2 Lost:2
ENSBTAG00000004136	NFE2L3	7	37	-1.239	-0.234	Lost:7
ENSBTAG00000012499	RPGRIP1L	4	24	-1.368	-0.228	Lost:4
ENSBTAG00000039815	ZBTB6	6	33	-1.212	-0.220	Gain:2 Lost:4
ENSBTAG00000005688	MRPS2	6	36	-1.305	-0.218	Increase:1 Gain:4 Lost:1
ENSBTAG00000017388	CCDC23	7	19	-0.59	-0.217	Lost:7
ENSBTAG00000015547	SLC26A3	9	57	-1.361	-0.215	Lost:9
ENSBTAG00000004502	CLUAP1	10	66	-1.357	-0.206	Decrease:2 Gain:7 Lost:1
ENSBTAG00000004875	NAA60	7	48	-1.381	-0.201	Gain:5 Lost:2
ENSBTAG00000009198	ASB9	5	24	-0.956	-0.199	Decrease:1 Lost:4
ENSBTAG00000017685	JUP	6	70	-2.295	-0.197	Decrease:3 Gain:3

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000031890	DOCK1	8	33	-0.81	-0.196	Gain:8
ENSBTAG00000039787	CSN3	4	15	-0.725	-0.193	Gain:1 Lost:3
ENSBTAG00000008726	NCS1	6	33	-1.055	-0.192	Increase:1 Gain:3 Lost:2
ENSBTAG00000020067	LLGL2	5	16	-0.609	-0.190	Decrease:1 Gain:4
ENSBTAG00000009363	GINS3	11	98	-1.692	-0.190	Increase:3 Gain:8
ENSBTAG00000005985	CBLN2	11	95	-1.614	-0.187	Increase:2 Gain:5 Lost:4
ENSBTAG00000006136	CDA	8	44	-1.009	-0.183	Increase:3 Gain:2 Lost:3
ENSBTAG00000012106	ADCK1	7	43	-1.106	-0.180	Gain:5 Lost:2
ENSBTAG00000025242	C19H17orf 78	8	76	-1.657	-0.174	Lost:8
ENSBTAG00000012601	TEKT4	1	1	-0.167	-0.167	Lost:1
ENSBTAG00000004114	MAP3K11	7	76	-1.719	-0.158	Increase:1 Decrease:2
ENSBTAG00000002657	NKIRAS2	6	62	-1.635	-0.158	Gain:2 Lost:4
ENSBTAG00000003955	MYO7A	7	41	-0.918	-0.157	Gain:6 Lost:1
ENSBTAG00000017611	CCSER2	6	33	-0.859	-0.156	Gain:4 Lost:2
ENSBTAG00000037640	PID1	11	145	-2.032	-0.154	Gain:4 Lost:7
ENSBTAG00000045785	TOM1	7	56	-1.219	-0.152	Increase:1 Decrease:1
ENSBTAG00000011249	MOB2	6	37	-0.937	-0.152	Increase:3 Gain:3
ENSBTAG00000012199	IMP3	4	26	-0.986	-0.152	Lost:4
ENSBTAG00000033603	IP6K3	10	102	-1.534	-0.150	Gain:7 Lost:3
ENSBTAG00000015513	DOCK5	7	46	-0.983	-0.150	Increase:1 Gain:1 Lost:5
ENSBTAG00000008143	STK17A	4	17	-0.634	-0.149	Gain:2 Lost:2
ENSBTAG00000019911	CCDC56	4	18	-0.669	-0.149	Gain:3 Lost:1
ENSBTAG00000009702	MYH8	2	6	-0.445	-0.148	Gain:2
ENSBTAG00000013159	PHF11	6	52	-1.263	-0.146	Gain:4 Lost:2
ENSBTAG00000044068	LOC78492 4	4	11	-0.398	-0.145	Gain:4
ENSBTAG00000011872	EML3	6	22	-0.525	-0.143	Gain:5 Lost:1
ENSBTAG00000016218	PTGES2	5	37	-1.034	-0.140	Gain:3 Lost:2

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000010692	SND1	6	43	-0.982	-0.137	Gain:3 Lost:3
ENSBTAG00000011924	CCDC42B	3	14	-0.634	-0.136	Increase:2 Lost:1
ENSBTAG00000009915	AP2A2	4	26	-0.876	-0.135	Gain:3 Lost:1
ENSBTAG00000007101	F3	9	75	-1.115	-0.134	Gain:9
ENSBTAG00000005425	GATA4	12	129	-1.427	-0.133	Increase:1 Decrease:2
ENSBTAG00000014536	SFXN1	6	36	-0.766	-0.128	Lost:6
ENSBTAG00000007118	SMURF1	3	16	-0.676	-0.127	Gain:3
ENSBTAG00000004284	UFD1L	9	69	-0.957	-0.125	Gain:9
ENSBTAG00000008342	TMPRSS13	5	25	-0.618	-0.124	Lost:5
ENSBTAG00000003094	SART1	9	91	-1.248	-0.123	Decrease:7 Lost:2
ENSBTAG00000017826	SCLY	1	4	-0.478	-0.120	Gain:1
ENSBTAG00000012925	NCAPH	4	21	-0.603	-0.115	Gain:2 Lost:2
ENSBTAG00000037489	CRCP	7	51	-0.835	-0.115	Gain:6 Lost:1
ENSBTAG00000006464	GGA1	8	73	-1.045	-0.115	Increase:1 Lost:7
ENSBTAG00000013928	WFDC2	3	8	-0.303	-0.114	Gain:2 Lost:1
ENSBTAG00000000406	GPATCH4	5	22	-0.493	-0.112	Lost:5
ENSBTAG00000006901	NIPSNAP3 A	5	50	-1.116	-0.112	Gain:4 Lost:1
ENSBTAG00000013114	ZMYND8	10	114	-1.272	-0.112	Increase:1 Decrease:2
ENSBTAG00000020749	AAED1	3	12	-0.443	-0.111	Gain:3
ENSBTAG00000003589	COMMD3	5	20	-0.441	-0.110	Decrease:3 Gain:1 Lost:1
ENSBTAG00000003938	FNDC1	4	22	-0.591	-0.107	Gain:3 Lost:1
ENSBTAG00000013988	BID	5	31	-0.666	-0.107	Decrease:1 Lost:4
ENSBTAG00000022580	FAM212B	3	29	-1.024	-0.106	Gain:1 Lost:2
ENSBTAG00000019096	UQCRC1	2	8	-0.423	-0.106	Gain:1 Lost:1
ENSBTAG00000000973	KCNJ15	5	43	-0.9	-0.105	Increase:1 Gain:4
ENSBTAG00000021050	ECEL1	5	48	-0.993	-0.103	Increase:3 Gain:1 Lost:1
ENSBTAG00000008429	LRP4	2	9	-0.464	-0.103	Gain:1 Lost:1

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000004590	PPIH	3	18	-0.61	-0.102	Gain:1 Lost:2
ENSBTAG00000015112	PSMD6	1	2	-0.203	-0.102	Gain:1
ENSBTAG00000003632	CYP39A1	6	89	-1.473	-0.099	Gain:5 Lost:1
ENSBTAG00000020649	CIITA	3	14	-0.461	-0.099	Lost:3
ENSBTAG00000005888	MDGA1	7	42	-0.587	-0.098	Gain:1 Lost:6
ENSBTAG00000020780	SBNO2	5	58	-1.128	-0.097	Increase:2 Lost:3
ENSBTAG00000008943	ZSCAN12	8	97	-1.171	-0.097	Gain:6 Lost:2
ENSBTAG00000006385	BAI1	3	15	-0.473	-0.095	Gain:3
ENSBTAG00000037826	ART5	1	1	-0.094	-0.094	Lost:1
ENSBTAG00000007147	CUEDC1	10	110	-1.033	-0.094	Increase:2 Decrease:1
ENSBTAG00000014838	VPS26B	9	91	-0.94	-0.093	Gain:7 Lost:2
ENSBTAG00000000653	PPP1R16B	13	255	-1.82	-0.093	Increase:1 Decrease:5
ENSBTAG00000031851	SELPLG	6	64	-0.988	-0.093	Decrease:2 Lost:4
ENSBTAG00000026266	MYL12B	4	26	-0.6	-0.092	Lost:4
ENSBTAG00000014620	FOXI1	4	53	-1.22	-0.092	Gain:4
ENSBTAG00000018362	TMEM109	9	133	-1.352	-0.091	Decrease:2 Gain:2 Lost:5
ENSBTAG00000035323	TMX4	12	165	-1.24	-0.090	Decrease:6 Gain:5 Lost:1
ENSBTAG00000008195	PHKG1	6	71	-1.064	-0.090	Increase:3 Gain:1 Lost:2
ENSBTAG00000009390	FAM188B	4	44	-0.971	-0.088	Gain:3 Lost:1
ENSBTAG00000012147	ARRDC1	4	24	-0.528	-0.088	Gain:1 Lost:3
ENSBTAG00000044169	PRELID2	8	139	-1.525	-0.088	Increase:2 Gain:2 Lost:4
ENSBTAG00000020115	UBE2O	8	74	-0.806	-0.087	Gain:8
ENSBTAG00000019029	DPH5	7	96	-1.193	-0.087	Increase:1 Decrease:2
ENSBTAG00000007424	LIF	6	80	-1.13	-0.085	Gain:3 Lost:3
ENSBTAG00000039714	LOC523126	9	82	-0.772	-0.085	Increase:1 Decrease:1
ENSBTAG00000005893	TMEM68	9	107	-0.999	-0.084	Lost:9
ENSBTAG00000005976	HSD17B7	7	90	-1.078	-0.084	Decrease:1 Lost:6

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000014847	BBOX1	4	46	-0.952	-0.083	Gain:1 Lost:3
ENSBTAG00000046321		3	27	-0.742	-0.082	Increase:2 Gain:1
ENSBTAG00000035064	C4H7orf57	7	68	-0.798	-0.082	Lost:7
ENSBTAG00000031476	DLL1	4	22	-0.451	-0.082	Gain:4
ENSBTAG00000027074	SV2B	8	155	-1.565	-0.081	Increase:1 Gain:3 Lost:4
ENSBTAG00000010758	C19H17orf 109	4	47	-0.948	-0.081	Gain:4
ENSBTAG00000006474	EPCAM	3	22	-0.589	-0.080	Lost:3
ENSBTAG00000019593	KNOP1	5	49	-0.767	-0.078	Gain:3 Lost:2
ENSBTAG00000015457	FGFR1	4	47	-0.916	-0.078	Gain:4
ENSBTAG00000013674	EDNRA	7	97	-1.075	-0.078	Gain:7
ENSBTAG00000004792	CHMP4C	5	61	-0.94	-0.077	Decrease:3 Gain:1 Lost:1
ENSBTAG00000031358	DPYD	6	110	-1.395	-0.076	Increase:2 Lost:4
ENSBTAG00000015538	LEMD2	4	76	-1.445	-0.076	Increase:3 Gain:1
ENSBTAG00000000874	CAST	10	156	-1.182	-0.076	Gain:9
ENSBTAG00000007860	ASPM	2	13	-0.489	-0.075	Gain:1 Lost:1
ENSBTAG00000019798	PIGR	8	107	-0.995	-0.074	Decrease:1 Lost:7
ENSBTAG00000005437	SMCP	4	23	-0.427	-0.074	Lost:4
ENSBTAG00000013527	PGD	3	28	-0.691	-0.074	Increase:2 Decrease:1
ENSBTAG00000011389	TMEM104	9	142	-1.166	-0.074	Increase:2 Decrease:1
ENSBTAG00000003097		4	39	-0.707	-0.073	Gain:2 Lost:2
ENSBTAG00000013235	TINAGL1	3	23	-0.553	-0.072	Decrease:3
ENSBTAG00000006755	C15H11orf 58	7	143	-1.473	-0.072	Gain:2 Lost:5
ENSBTAG00000012049	WIPI2	4	40	-0.705	-0.071	Increase:1 Gain:1 Lost:2
ENSBTAG00000002253	FKBP6	5	56	-0.789	-0.070	Gain:5
ENSBTAG00000019412	C25H16orf 62	4	29	-0.51	-0.070	Increase:1 Lost:3
ENSBTAG00000019426	RNF175	3	19	-0.443	-0.070	Gain:1 Lost:2
ENSBTAG00000003629	ASPA	5	64	-0.891	-0.070	Increase:3 Lost:2

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000013825	BCAT1	5	70	-0.968	-0.069	Gain:2 Lost:3
ENSBTAG00000007961	TADA3	5	58	-0.799	-0.069	Gain:2 Lost:3
ENSBTAG00000003595	FAM216B	6	51	-0.572	-0.067	Decrease:2 Lost:4
ENSBTAG00000003794	GNAO1	7	101	-0.96	-0.067	Increase:1 Decrease:1
ENSBTAG00000012348	LRRC71	12	209	-1.143	-0.066	Decrease:1 Gain:1 Lost:10
ENSBTAG00000033453	MTCH1	4	56	-0.911	-0.065	Increase:1 Gain:2 Lost:1
ENSBTAG00000015888	PDE7B	2	17	-0.55	-0.065	Gain:2
ENSBTAG00000010191	PAK1	7	102	-0.941	-0.065	Decrease:6 Gain:1
ENSBTAG00000047833	AFM	3	36	-0.77	-0.064	Gain:2 Lost:1
ENSBTAG00000014229	SYT17	3	30	-0.632	-0.063	Decrease:1 Gain:1 Lost:1
ENSBTAG00000013451	RHOH	4	43	-0.679	-0.063	Gain:3
ENSBTAG00000000569	HES1	3	18	-0.378	-0.063	Gain:1 Lost:2
ENSBTAG00000013874	C18H16orf 80	3	25	-0.524	-0.063	Gain:1 Lost:2
ENSBTAG00000014992	GPR37L1	4	51	-0.8	-0.063	Increase:3 Decrease:1
ENSBTAG00000015744	CCNC	6	68	-0.705	-0.062	Gain:6
ENSBTAG00000008095	ACER1	3	35	-0.723	-0.062	Increase:1 Gain:2
ENSBTAG00000004347	GPR116	5	65	-0.789	-0.061	Increase:3 Gain:2
ENSBTAG00000007486	CEL	2	9	-0.269	-0.060	Lost:2
ENSBTAG00000001100	IL22RA1	6	100	-0.986	-0.059	Increase:1 Gain:5
ENSBTAG00000005547	METTL21D	4	41	-0.604	-0.059	Gain:4
ENSBTAG00000004879	FOXO4	6	96	-0.929	-0.058	Decrease:1 Gain:3 Lost:2
ENSBTAG00000019984	GINS1	6	124	-1.198	-0.058	Gain:5 Lost:1
ENSBTAG00000003462	ZNF135	4	70	-1.012	-0.058	Gain:3 Lost:1
ENSBTAG00000013922	MOSPD1	5	100	-1.156	-0.058	Gain:4 Lost:1
ENSBTAG00000007530	TRIM10	3	24	-0.462	-0.058	Gain:3
ENSBTAG00000006914	PRR3	5	105	-1.205	-0.057	Increase:3 Decrease:1
ENSBTAG00000044171	CNIH3	4	34	-0.484	-0.057	Lost:4

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000024542	PIGC	2	14	-0.396	-0.057	Lost:2
ENSBTAG00000006775	SLC12A7	4	60	-0.839	-0.056	Increase:4
ENSBTAG00000004490	TRIM31	3	34	-0.632	-0.056	Gain:1 Lost:2
ENSBTAG00000014911	LEP	11	178	-0.89	-0.055	Decrease:4 Gain:2 Lost:5
ENSBTAG00000007369	PDLIM2	3	26	-0.47	-0.054	Lost:3
ENSBTAG00000014782	STAB1	1	4	-0.216	-0.054	Gain:1
ENSBTAG00000016555	TRPT1	1	1	-0.054	-0.054	Lost:1
ENSBTAG00000019888		3	27	-0.484	-0.054	Decrease:3
ENSBTAG00000026242	BAALC	6	92	-0.824	-0.054	Increase:1 Gain:5
ENSBTAG00000019627	THY1	6	124	-1.105	-0.053	Increase:2 Gain:2 Lost:2
ENSBTAG00000009362	SYNE1	4	54	-0.72	-0.053	Gain:3 Lost:1
ENSBTAG00000032021	RALB	8	124	-0.826	-0.053	Increase:1 Decrease:1
ENSBTAG00000001250	TFAP2A	5	108	-1.135	-0.053	Increase:1 Gain:2 Lost:2
ENSBTAG00000003754		2	19	-0.498	-0.052	Lost:2
ENSBTAG00000015377	EPHB1	3	61	-1.053	-0.052	Gain:2 Lost:1
ENSBTAG00000000961	NEURL2	4	70	-0.906	-0.052	Decrease:2 Lost:2
ENSBTAG00000010938	C2H1orf64	3	30	-0.513	-0.051	Gain:2 Lost:1
ENSBTAG00000000634	MLPH	7	131	-0.956	-0.051	Increase:1 Decrease:1
ENSBTAG00000039991	UGT2B10	2	17	-0.433	-0.051	Gain:1 Lost:1
ENSBTAG00000007304	CLK3	3	25	-0.424	-0.051	Gain:2 Lost:1
ENSBTAG00000007474	EIF3B	7	85	-0.614	-0.051	Increase:1 Gain:5 Lost:1
ENSBTAG00000046339	VASN	5	39	-0.391	-0.050	Gain:2 Lost:3
ENSBTAG00000018496	TIMM17B	3	33	-0.55	-0.050	Gain:1 Lost:2
ENSBTAG00000020311	USP20	7	107	-0.763	-0.050	Decrease:1 Gain:5 Lost:1
ENSBTAG00000020073	NCEH1	8	176	-1.097	-0.050	Gain:2 Lost:6
ENSBTAG00000012393	AGT	2	14	-0.349	-0.050	Lost:2
ENSBTAG00000020282	DCTD	5	100	-0.994	-0.050	Decrease:4 Lost:1

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000016299	ZNF784	6	85	-0.697	-0.049	Gain:1 Lost:5
ENSBTAG00000008190	SUMF2	4	65	-0.797	-0.049	Gain:3 Lost:1
ENSBTAG00000010480	TIMM50	1	4	-0.196	-0.049	Lost:1
ENSBTAG00000006084	PINK1	5	90	-0.88	-0.049	Gain:1 Lost:4
ENSBTAG00000020395	LYSMD1	4	88	-1.062	-0.048	Gain:4
ENSBTAG00000039820	CLDN8	6	81	-0.651	-0.048	Gain:5 Lost:1
ENSBTAG00000002974	FMO2	7	167	-1.144	-0.048	Increase:1 Decrease:1
ENSBTAG00000000520	ATP2B3	4	54	-0.646	-0.048	Increase:1 Gain:3
ENSBTAG00000012074	MYB	7	128	-0.875	-0.048	Increase:6 Gain:1
ENSBTAG00000001764	NCAN	7	170	-1.158	-0.048	Gain:6 Lost:1
ENSBTAG00000008625	PLEKHF1	5	64	-0.606	-0.047	Increase:3 Decrease:1
ENSBTAG00000004215	RARRES2	1	7	-0.33	-0.047	Lost:1
ENSBTAG00000020148	TEK	6	62	-0.487	-0.047	Gain:6
ENSBTAG00000009770	GPD2	5	72	-0.666	-0.046	Increase:1 Decrease:2
ENSBTAG00000007490	SULF2	4	61	-0.704	-0.046	Increase:1 Gain:3
ENSBTAG00000000782	KDR	6	131	-1.007	-0.046	Decrease:1 Lost:5
ENSBTAG00000003143	TBCCD1	3	51	-0.781	-0.046	Gain:2 Lost:1
ENSBTAG00000032821	SCEL	4	84	-0.964	-0.046	Increase:1 Lost:3
ENSBTAG00000006726	CCDC102B	2	20	-0.459	-0.046	Lost:2
ENSBTAG00000011601	ST3GAL5	2	17	-0.39	-0.046	Lost:2
ENSBTAG00000012069	CCDC167	2	13	-0.297	-0.046	Gain:1 Lost:1
ENSBTAG00000000207	HDHD1	5	81	-0.738	-0.046	Increase:2 Gain:1 Lost:2
ENSBTAG00000008112	SHPRH	3	23	-0.349	-0.046	Gain:2 Lost:1
ENSBTAG00000047954	ZNF75D	2	14	-0.318	-0.045	Lost:2
ENSBTAG00000011808	MSTN	5	100	-0.907	-0.045	Decrease:2 Gain:1 Lost:2
ENSBTAG00000018548	INTS7	4	81	-0.915	-0.045	Decrease:1 Lost:3
ENSBTAG00000008804	SAAL1	2	24	-0.542	-0.045	Lost:2

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000000404	APOA1BP	3	17	-0.254	-0.045	Gain:3
ENSBTAG00000007946	PIPOX	6	110	-0.815	-0.044	Decrease:1 Gain:3 Lost:2
ENSBTAG00000015896	CC2D1B	2	14	-0.31	-0.044	Lost:2
ENSBTAG00000039157	GPR182	2	11	-0.243	-0.044	Increase:1 Gain:1
ENSBTAG00000002052		3	34	-0.5	-0.044	Gain:3
ENSBTAG00000007189	RCHY1	4	34	-0.371	-0.044	Decrease:2 Gain:2
ENSBTAG00000012747	FAM3A	4	62	-0.673	-0.043	Gain:4
ENSBTAG00000017679	PAK7	2	30	-0.649	-0.043	Gain:2
ENSBTAG00000002127	TCP11L2	5	132	-1.134	-0.043	Lost:5
ENSBTAG00000016502	ZNF740	3	35	-0.5	-0.043	Gain:3
ENSBTAG00000045510	EMC10	5	88	-0.752	-0.043	Increase:1 Gain:4
ENSBTAG00000023928	RDH14	3	26	-0.368	-0.042	Gain:1 Lost:2
ENSBTAG00000015587	TTC32	3	39	-0.552	-0.042	Gain:3
ENSBTAG00000019707	GATA2	4	86	-0.912	-0.042	Increase:2 Gain:1 Lost:1
ENSBTAG00000021246	C26H10orf 32	4	62	-0.654	-0.042	Gain:4
ENSBTAG00000014106	IPO8	3	34	-0.478	-0.042	Gain:3
ENSBTAG00000015717	HEY1	2	14	-0.294	-0.042	Lost:2
ENSBTAG00000031340	SLC6A20	2	25	-0.523	-0.042	Gain:2
ENSBTAG00000008401	PFKFB3	7	166	-0.99	-0.042	Decrease:4 Gain:2 Lost:1
ENSBTAG00000021961	SPR	6	55	-0.382	-0.042	Lost:6
ENSBTAG00000021119	TDGF1	5	73	-0.601	-0.041	Gain:5
ENSBTAG00000002138	PADI1	5	121	-0.996	-0.041	Gain:3 Lost:2
ENSBTAG00000015529	CHCHD4	3	31	-0.425	-0.041	Gain:1 Lost:2
ENSBTAG00000001193	UNC93B1	3	38	-0.518	-0.041	Gain:3
ENSBTAG00000002590	EXOSC10	5	96	-0.784	-0.041	Decrease:1 Gain:1 Lost:3
ENSBTAG00000000197	RG9MTD2	5	131	-1.069	-0.041	Gain:2 Lost:3
ENSBTAG00000018010	ABCA4	4	68	-0.693	-0.041	Increase:2 Gain:1 Lost:1

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000015639	ERAL1	3	33	-0.445	-0.040	Gain:1 Lost:2
ENSBTAG00000000317	MAPK8IP1	4	63	-0.637	-0.040	Decrease:1 Gain:3
ENSBTAG00000015839	MAP4	2	19	-0.384	-0.040	Gain:2
ENSBTAG00000015401	ATG4B	8	81	-0.407	-0.040	Gain:5 Lost:3
ENSBTAG00000016505	TMC7	3	40	-0.532	-0.040	Decrease:3
ENSBTAG00000000825	MRPS26	1	3	-0.118	-0.039	Lost:1
ENSBTAG00000013952	HNRNPD	2	25	-0.49	-0.039	Gain:2
ENSBTAG00000003525	STXBP1	6	157	-1.021	-0.039	Increase:2 Decrease:1
ENSBTAG00000019772	OXTR	4	82	-0.799	-0.039	Lost:4
ENSBTAG00000004544	TXNDC9	2	21	-0.409	-0.039	Gain:1 Lost:1
ENSBTAG00000000588	CHODL	6	55	-0.357	-0.039	Gain:1 Lost:5
ENSBTAG00000007125	AFMID	3	48	-0.623	-0.039	Gain:3
ENSBTAG00000034632	LEMD1	2	17	-0.329	-0.039	Lost:2
ENSBTAG00000012458	PSAPL1	4	64	-0.618	-0.039	Lost:4
ENSBTAG00000018999	MGRN1	5	151	-1.164	-0.039	Decrease:2 Gain:3
ENSBTAG00000019285	LOC52350 4	5	98	-0.755	-0.039	Increase:3 Gain:2
ENSBTAG00000022314	EMD	3	29	-0.371	-0.038	Gain:2 Lost:1
ENSBTAG00000017436	ALS2CR11	4	93	-0.891	-0.038	Decrease:1 Gain:1 Lost:2
ENSBTAG00000003693	SUN2	1	1	-0.038	-0.038	Lost:1
ENSBTAG00000014501	FERMT2	5	94	-0.714	-0.038	Gain:1 Lost:4
ENSBTAG00000002157	LMOD2	2	17	-0.318	-0.037	Lost:2
ENSBTAG00000014575	COL4A5	3	30	-0.374	-0.037	Gain:3
ENSBTAG00000004328	CHST10	5	125	-0.933	-0.037	Increase:3 Gain:1 Lost:1
ENSBTAG00000002413	MCAT	6	85	-0.525	-0.037	Lost:6
ENSBTAG00000015214	CA3	4	70	-0.647	-0.037	Increase:1 Lost:3
ENSBTAG00000003531	ABCA13	2	14	-0.258	-0.037	Gain:2
ENSBTAG00000011467	BATF2	2	24	-0.441	-0.037	Lost:2

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000012509	DYRK1B	3	39	-0.475	-0.037	Increase:1 Gain:1 Lost:1
ENSBTAG00000030933	ZNF576	2	26	-0.473	-0.036	Lost:2
ENSBTAG00000011250	AFG3L2	2	39	-0.706	-0.036	Gain:2
ENSBTAG00000010604	PNO1	2	15	-0.27	-0.036	Lost:2
ENSBTAG00000019604	VASP	3	61	-0.73	-0.036	Gain:3
ENSBTAG00000044184	TUBGCP3	3	53	-0.63	-0.036	Lost:3
ENSBTAG00000034154	AGMO	1	11	-0.391	-0.036	Lost:1
ENSBTAG00000015478	SRD5A1	5	137	-0.972	-0.035	Increase:1 Gain:4
ENSBTAG00000016343	KCNIP2	4	107	-0.945	-0.035	Gain:2 Lost:2
ENSBTAG00000025762	CNP	5	94	-0.66	-0.035	Gain:2 Lost:3
ENSBTAG00000017565	SCFD1	2	12	-0.21	-0.035	Lost:2
ENSBTAG00000012465	FOXC2	3	63	-0.734	-0.035	Increase:1 Gain:2
ENSBTAG00000017769	RIBC1	1	10	-0.349	-0.035	Lost:1
ENSBTAG00000005234	LYPD1	6	161	-0.935	-0.035	Decrease:3 Gain:2 Lost:1
ENSBTAG00000046142	PRKAR1B	1	12	-0.418	-0.035	Lost:1
ENSBTAG00000000898	F2RL2	5	108	-0.752	-0.035	Gain:5
ENSBTAG00000044194	ZDHHC2	3	31	-0.359	-0.035	Gain:3
ENSBTAG00000014934	DCAF10	1	3	-0.104	-0.035	Lost:1
ENSBTAG00000013044	GAB3	5	80	-0.552	-0.035	Increase:1 Gain:2 Lost:2
ENSBTAG00000008690	SLC6A9	5	109	-0.751	-0.034	Decrease:1 Gain:3 Lost:1
ENSBTAG00000031886	HIST1H2B L	4	84	-0.722	-0.034	Increase:1 Gain:3
ENSBTAG00000005490	P4HTM	2	14	-0.239	-0.034	Lost:2
ENSBTAG00000018889	ATP6V0B	1	10	-0.341	-0.034	Lost:1
ENSBTAG00000004643	WASL	4	99	-0.833	-0.034	Decrease:1 Gain:3
ENSBTAG00000034785	DNAJC15	1	6	-0.2	-0.033	Lost:1
ENSBTAG00000003469	CHURC1	6	183	-1.015	-0.033	Gain:6
ENSBTAG00000019831	MRPS11	2	20	-0.332	-0.033	Gain:1 Lost:1

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000006355	SLC30A2	3	47	-0.518	-0.033	Decrease:1 Gain:1 Lost:1
ENSBTAG00000006573	KLHL18	7	189	-0.892	-0.033	Increase:1 Decrease:5
ENSBTAG00000009837	ANKS4B	7	88	-0.414	-0.033	Lost:7
ENSBTAG00000006280	RBFOX3	5	110	-0.722	-0.033	Decrease:1 Gain:2 Lost:2
ENSBTAG00000018534	DGCR14	6	95	-0.519	-0.033	Increase:2 Gain:4
ENSBTAG00000047567	Vegfb	3	39	-0.424	-0.033	Gain:3
ENSBTAG00000046389	KLRD1	3	37	-0.402	-0.033	Increase:1 Gain:1 Lost:1
ENSBTAG00000001049	KAL1	4	61	-0.496	-0.033	Decrease:1 Gain:2 Lost:1
ENSBTAG00000009431	SLC25A44	10	200	-0.648	-0.032	Increase:1 Gain:8 Lost:1
ENSBTAG00000033961	RNF217	3	34	-0.367	-0.032	Lost:3
ENSBTAG00000018646	ATP6V1B2	5	105	-0.671	-0.032	Increase:1 Lost:4
ENSBTAG00000018123	FBLN5	3	59	-0.62	-0.032	Decrease:1 Gain:2
ENSBTAG00000013060	IQGAP1	8	177	-0.697	-0.032	Decrease:1 Gain:1 Lost:6
ENSBTAG00000021226	SAR1B	3	62	-0.648	-0.031	Increase:1 Gain:2
ENSBTAG00000030581	TBC1D5	2	28	-0.434	-0.031	Lost:2
ENSBTAG00000014729	MRPL51	6	150	-0.765	-0.031	Increase:1 Gain:5
ENSBTAG00000007097	THTPA	4	81	-0.619	-0.031	Decrease:1 Gain:1 Lost:2
ENSBTAG00000005869	SENP6	5	130	-0.792	-0.030	Decrease:1 Gain:4
ENSBTAG00000007835	GPT	2	17	-0.258	-0.030	Gain:2
ENSBTAG00000017125	PABPC4	2	28	-0.42	-0.030	Increase:2
ENSBTAG00000005785	DPY19L1	3	40	-0.4	-0.030	Increase:1 Lost:2
ENSBTAG00000031041	NHEJ1	3	44	-0.438	-0.030	Gain:2 Lost:1
ENSBTAG00000019741	C3AR1	9	133	-0.439	-0.030	Decrease:8 Lost:1
ENSBTAG00000018579	DOK1	3	94	-0.928	-0.030	Increase:3
ENSBTAG00000008014	PPP5C	2	38	-0.558	-0.029	Increase:1 Gain:1
ENSBTAG00000006420	BMPR2	1	7	-0.205	-0.029	Lost:1
ENSBTAG00000000365	TDP2	4	96	-0.702	-0.029	Lost:4

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000015125	KLK5	3	28	-0.272	-0.029	Gain:3
ENSBTAG00000007307	SELE	3	85	-0.823	-0.029	Decrease:1 Gain:1 Lost:1
ENSBTAG00000001576	TMEM140	4	83	-0.601	-0.029	Decrease:1 Gain:1 Lost:2
ENSBTAG00000015880	PRIMA1	1	20	-0.572	-0.029	Gain:1
ENSBTAG00000038340	CLNK	1	5	-0.142	-0.028	Lost:1
ENSBTAG00000012857	CNNM2	2	54	-0.766	-0.028	Gain:2
ENSBTAG00000013960	PSAT1	2	27	-0.38	-0.028	Gain:1 Lost:1
ENSBTAG00000017465	GNS	7	211	-0.845	-0.028	Increase:1 Decrease:1
ENSBTAG00000001107	CACYBP	2	33	-0.461	-0.028	Lost:2
ENSBTAG00000020761	USP33	8	98	-0.342	-0.028	Increase:7 Decrease:1
ENSBTAG00000000191	SLC25A20	3	59	-0.549	-0.028	Lost:3
ENSBTAG00000000387	NICN1	4	110	-0.765	-0.028	Increase:1 Gain:2 Lost:1
ENSBTAG00000019830	MRPL46	1	5	-0.139	-0.028	Gain:1
ENSBTAG00000019105	NPLOC4	3	66	-0.611	-0.028	Gain:3
ENSBTAG00000005206	TMEM14A	3	45	-0.416	-0.028	Increase:1 Lost:2
ENSBTAG00000010957	LHPP	3	63	-0.582	-0.028	Gain:1 Lost:2
ENSBTAG00000024091	MALL	6	119	-0.549	-0.028	Decrease:1 Lost:5
ENSBTAG00000016846	YWHAB	5	140	-0.773	-0.028	Gain:1 Lost:4
ENSBTAG00000013336	EYA2	3	56	-0.509	-0.027	Gain:2 Lost:1
ENSBTAG00000006810	ODAM	4	42	-0.286	-0.027	Gain:4
ENSBTAG00000006526	BCL2L1	5	123	-0.669	-0.027	Gain:5
ENSBTAG00000001752	FUCA2	1	6	-0.163	-0.027	Lost:1
ENSBTAG00000008755	Mar-07	5	86	-0.464	-0.027	Increase:2 Decrease:2
ENSBTAG00000034613	C14H8orf73	3	38	-0.341	-0.027	Gain:3
ENSBTAG00000006022	ATP6V0E2	5	127	-0.683	-0.027	Increase:2 Decrease:3
ENSBTAG00000015986	NDE1	7	167	-0.638	-0.027	Increase:6 Lost:1
ENSBTAG00000003644	HSPBP1	3	30	-0.266	-0.027	Gain:2 Lost:1

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000014060	LSM6	2	17	-0.226	-0.027	Lost:2
ENSBTAG00000039705	LOC509113	3	43	-0.38	-0.027	Lost:3
ENSBTAG00000000484	HYAL2	1	23	-0.609	-0.026	Lost:1
ENSBTAG00000002150	IL17A	2	16	-0.211	-0.026	Gain:2
ENSBTAG00000018287	SLC25A48	2	57	-0.751	-0.026	Gain:2
ENSBTAG00000005471	RHCG	2	45	-0.592	-0.026	Gain:2
ENSBTAG00000013004	ITIH5	2	34	-0.444	-0.026	Decrease:1 Gain:1
ENSBTAG00000009962	PDCL3	4	62	-0.404	-0.026	Lost:4
ENSBTAG00000005249	RNF14	4	97	-0.632	-0.026	Gain:4
ENSBTAG00000023611	ZBTB32	2	21	-0.272	-0.026	Gain:1 Lost:1
ENSBTAG00000014197	SLC38A4	2	28	-0.361	-0.026	Gain:1 Lost:1
ENSBTAG00000019716	IL8	4	108	-0.696	-0.026	Decrease:1 Gain:2 Lost:1
ENSBTAG00000046670	MLX	5	104	-0.534	-0.026	Decrease:2 Lost:3
ENSBTAG00000010152	MID1	6	164	-0.701	-0.026	Increase:1 Decrease:2
ENSBTAG00000020611	GLB1L	1	13	-0.332	-0.026	Lost:1
ENSBTAG00000000105	RIT1	4	185	-1.18	-0.026	Gain:3 Lost:1
ENSBTAG00000020979	NGFR	5	166	-0.843	-0.025	Increase:1 Gain:3 Lost:1
ENSBTAG00000007865	GNPDA1	5	116	-0.589	-0.025	Decrease:1 Gain:3 Lost:1
ENSBTAG00000034827	PDGFD	2	45	-0.571	-0.025	Gain:2
ENSBTAG00000045939	LOC506943	1	10	-0.253	-0.025	Gain:1
ENSBTAG00000031231	IRF1	6	166	-0.699	-0.025	Decrease:2 Gain:1 Lost:3
ENSBTAG00000008973	ASB6	3	62	-0.521	-0.025	Lost:3
ENSBTAG00000026172	FAM84B	6	195	-0.817	-0.025	Increase:1 Decrease:1
ENSBTAG00000036260	LPXN	2	43	-0.533	-0.025	Increase:1 Gain:1
ENSBTAG00000002918	RAD51	3	77	-0.636	-0.025	Gain:3
ENSBTAG00000020616	DGKD	4	99	-0.609	-0.025	Increase:2 Decrease:1
ENSBTAG00000012630	PAMR1	3	61	-0.499	-0.025	Gain:3

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000026772	ZNF142	1	14	-0.343	-0.025	Decrease:1
ENSBTAG00000011831	SPPL2A	1	8	-0.195	-0.024	Lost:1
ENSBTAG00000010667	PIK3IP1	5	115	-0.56	-0.024	Decrease:3 Gain:1 Lost:1
ENSBTAG00000002185	RNF7	2	62	-0.754	-0.024	Gain:2
ENSBTAG00000005678	AACS	3	77	-0.623	-0.024	Decrease:1 Lost:2
ENSBTAG00000010994	CTSF	2	40	-0.485	-0.024	Lost:2
ENSBTAG00000012448	CCDC91	3	66	-0.529	-0.024	Gain:2 Lost:1
ENSBTAG00000027513	CXCL2	2	35	-0.419	-0.024	Gain:2
ENSBTAG00000001356	USP38	3	81	-0.646	-0.024	Increase:1 Lost:2
ENSBTAG00000005427	NRDE2	3	76	-0.604	-0.024	Gain:2 Lost:1
ENSBTAG00000010809	C19H17orf28	4	59	-0.351	-0.024	Increase:3 Gain:1
ENSBTAG00000004175	HPD	2	25	-0.297	-0.024	Lost:2
ENSBTAG00000012454	SLC35A3	7	230	-0.779	-0.024	Decrease:5 Lost:2
ENSBTAG00000019870	SLC14A1	4	136	-0.802	-0.024	Gain:3 Lost:1
ENSBTAG00000009841	CNDP2	2	43	-0.507	-0.024	Lost:2
ENSBTAG00000009376	DPH1	3	83	-0.652	-0.024	Decrease:1 Gain:1 Lost:1
ENSBTAG00000017835	C7H5orf63	3	61	-0.475	-0.023	Gain:1 Lost:2
ENSBTAG00000021121	PPIL2	5	125	-0.583	-0.023	Gain:4 Lost:1
ENSBTAG00000019565	NCOA4	3	61	-0.474	-0.023	Decrease:1 Gain:2
ENSBTAG00000013291	ARMC6	3	58	-0.449	-0.023	Lost:3
ENSBTAG00000045520	PDYN	4	113	-0.654	-0.023	Gain:2 Lost:2
ENSBTAG00000006378	RIPK1	1	20	-0.463	-0.023	Lost:1
ENSBTAG00000007234	PLRG1	1	16	-0.368	-0.023	Lost:1
ENSBTAG00000016609	DQX1	2	38	-0.437	-0.023	Gain:1 Lost:1
ENSBTAG00000002419	PIGM	5	155	-0.712	-0.023	Decrease:3 Gain:2
ENSBTAG00000011826	PEX26	4	90	-0.515	-0.023	Decrease:3 Lost:1
ENSBTAG00000015326	DFNA5	2	31	-0.354	-0.023	Lost:2

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000010348	PDDC1	5	85	-0.387	-0.023	Gain:4 Lost:1
ENSBTAG00000002908	GNG4	9	190	-0.479	-0.023	Increase:3 Gain:6
ENSBTAG00000012788	COX6A1	1	8	-0.181	-0.023	Gain:1
ENSBTAG00000008483	CALCRL	5	154	-0.696	-0.023	Increase:3 Gain:2
ENSBTAG00000017753	APP	3	83	-0.625	-0.023	Lost:3
ENSBTAG00000019297	GFRA1	3	68	-0.511	-0.023	Increase:1 Gain:1 Lost:1
ENSBTAG00000008773	GUCY2D	4	105	-0.588	-0.022	Increase:3 Lost:1
ENSBTAG00000011010	PRND	6	179	-0.664	-0.022	Increase:1 Gain:3 Lost:2
ENSBTAG00000021808	CACNB3	5	120	-0.534	-0.022	Lost:5
ENSBTAG00000023610	U2AF1L4	2	13	-0.144	-0.022	Gain:2
ENSBTAG00000044150	UCK2	1	11	-0.243	-0.022	Lost:1
ENSBTAG00000021483	OLFML1	3	82	-0.603	-0.022	Gain:3
ENSBTAG00000020568	NKX2-5	1	25	-0.549	-0.022	Lost:1
ENSBTAG00000039597	KRTAP27-1	3	74	-0.538	-0.022	Gain:2 Lost:1
ENSBTAG00000009132	TMPRSS2	5	72	-0.314	-0.022	Gain:5
ENSBTAG00000009256	ITGA4	1	17	-0.368	-0.022	Lost:1
ENSBTAG00000038700	FAM124B	4	139	-0.745	-0.021	Increase:2 Gain:2
ENSBTAG00000005268	PLA2G4D	2	32	-0.343	-0.021	Gain:1 Lost:1
ENSBTAG00000030557	LIN52	6	140	-0.5	-0.021	Gain:2 Lost:4
ENSBTAG00000001659	VPS4A	4	105	-0.562	-0.021	Increase:2 Gain:1 Lost:1
ENSBTAG00000003752	SLC25A24	5	118	-0.505	-0.021	Increase:3 Gain:2
ENSBTAG00000003774	C8A	2	36	-0.382	-0.021	Gain:1 Lost:1
ENSBTAG00000038107	MAPKAPK2	1	9	-0.191	-0.021	Lost:1
ENSBTAG00000010980	ANKMY2	3	63	-0.443	-0.021	Decrease:1 Gain:2
ENSBTAG00000006035	PPP1R1B	3	64	-0.45	-0.021	Gain:3
ENSBTAG00000044075	SRPRB	3	64	-0.45	-0.021	Increase:1 Lost:2
ENSBTAG00000016762	SLC25A12	3	76	-0.533	-0.021	Increase:1 Gain:1 Lost:1

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000021103	SLC35F5	5	177	-0.741	-0.021	Gain:3 Lost:2
ENSBTAG00000006150	MRPS9	2	46	-0.48	-0.021	Gain:2
ENSBTAG00000005857	SLC6A1	7	200	-0.592	-0.021	Gain:7
ENSBTAG00000006836	FBXO33	1	8	-0.165	-0.021	Gain:1
ENSBTAG00000009889	ZNF181	3	63	-0.433	-0.021	Gain:1 Lost:2
ENSBTAG00000016549	LRRC16A	3	32	-0.219	-0.021	Lost:3
ENSBTAG00000018204	MYH1	1	9	-0.184	-0.020	Gain:1
ENSBTAG00000005917	PARD6G	4	153	-0.781	-0.020	Decrease:4
ENSBTAG00000008550	GIMAP7	2	42	-0.427	-0.020	Lost:2
ENSBTAG00000005922		2	29	-0.294	-0.020	Lost:2
ENSBTAG00000011481	IL12RB1	6	162	-0.547	-0.020	Increase:3 Decrease:1
ENSBTAG00000013337	DHDH	1	13	-0.263	-0.020	Gain:1
ENSBTAG00000017181	MACROD1	1	6	-0.121	-0.020	Increase:1
ENSBTAG00000003770	PTS	1	16	-0.322	-0.020	Lost:1
ENSBTAG00000018667	RCL1	3	47	-0.315	-0.020	Lost:3
ENSBTAG00000010956	SCARB2	5	153	-0.615	-0.020	Decrease:3 Lost:2
ENSBTAG00000006494	CLDN16	3	92	-0.616	-0.020	Gain:1 Lost:2
ENSBTAG00000003388	DPM2	4	67	-0.335	-0.020	Increase:1 Gain:2 Lost:1
ENSBTAG00000005828	MERTK	2	40	-0.399	-0.020	Gain:1 Lost:1
ENSBTAG00000006008	CAMSAP1	3	88	-0.585	-0.020	Increase:1 Gain:2
ENSBTAG00000011001	ERG	4	111	-0.553	-0.020	Gain:2 Lost:2
ENSBTAG00000007534	GGH	3	53	-0.351	-0.020	Lost:3
ENSBTAG00000005454	FUT10	4	120	-0.594	-0.020	Lost:4
ENSBTAG00000004783	CORO1B	2	26	-0.255	-0.020	Decrease:2
ENSBTAG00000002881	AP4M1	1	21	-0.411	-0.020	Lost:1
ENSBTAG00000006707	ACSL5	2	23	-0.225	-0.020	Decrease:1 Lost:1
ENSBTAG00000017381	CLDN19	4	87	-0.424	-0.019	Decrease:2 Lost:2

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000013573	BIRC5	3	94	-0.61	-0.019	Increase:1 Gain:2
ENSBTAG00000019255	NFE2L2	2	51	-0.494	-0.019	Increase:1 Gain:1
ENSBTAG00000008309	ATP13A2	2	38	-0.368	-0.019	Lost:2
ENSBTAG00000010442	PANK1	1	17	-0.329	-0.019	Lost:1
ENSBTAG00000013224	RMND1	5	170	-0.652	-0.019	Lost:5
ENSBTAG00000039091	CSRNP3	2	58	-0.556	-0.019	Lost:2
ENSBTAG00000005664	YWHAE	4	71	-0.338	-0.019	Gain:2 Lost:2
ENSBTAG00000004979	MRS2	3	148	-0.929	-0.019	Decrease:3
ENSBTAG00000007272	ATP6V0A2	4	141	-0.663	-0.019	Gain:1 Lost:3
ENSBTAG00000013831	DSG1	5	225	-0.846	-0.019	Gain:4 Lost:1
ENSBTAG00000006432	KCNE4	3	147	-0.918	-0.019	Gain:1 Lost:2
ENSBTAG00000001824	SLC2A6	3	40	-0.249	-0.019	Decrease:1 Gain:2
ENSBTAG00000015097	CACFD1	5	115	-0.429	-0.019	Increase:1 Decrease:2
ENSBTAG00000038929	BCAS4	2	27	-0.25	-0.019	Increase:1 Gain:1
ENSBTAG00000008167	TTC3	4	111	-0.513	-0.018	Lost:4
ENSBTAG00000002062	TRPA1	2	34	-0.312	-0.018	Lost:2
ENSBTAG00000006132	DENND3	1	15	-0.275	-0.018	Lost:1
ENSBTAG00000013611	SCLT1	1	30	-0.55	-0.018	Lost:1
ENSBTAG00000000816	PRDM1	4	201	-0.915	-0.018	Gain:4
ENSBTAG00000008571	CUX2	5	191	-0.693	-0.018	Increase:4 Gain:1
ENSBTAG00000006225	RPA2	1	9	-0.162	-0.018	Gain:1
ENSBTAG00000009331	CPAMD8	1	8	-0.144	-0.018	Lost:1
ENSBTAG00000012768	HMGXB3	2	39	-0.35	-0.018	Lost:2
ENSBTAG00000019167	INPPL1	2	83	-0.743	-0.018	Gain:2
ENSBTAG00000019225	SLC39A14	6	182	-0.543	-0.018	Lost:6
ENSBTAG00000043553	GPX3	4	91	-0.406	-0.018	Decrease:2 Gain:1 Lost:1
ENSBTAG00000017847	PPP1R12C	3	56	-0.333	-0.018	Decrease:1 Gain:1 Lost:1

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000007675	NPHP1	2	54	-0.481	-0.018	Gain:2
ENSBTAG00000007581	ADORA2B	2	50	-0.444	-0.018	Lost:2
ENSBTAG00000018011	APOBR	2	35	-0.31	-0.018	Gain:1 Lost:1
ENSBTAG00000031916	LOC78287 4	1	30	-0.531	-0.018	Lost:1
ENSBTAG00000017690	CARNS1	3	109	-0.641	-0.018	Increase:1 Gain:1 Lost:1
ENSBTAG00000012217	PLA2G2F	6	224	-0.658	-0.018	Increase:4 Gain:2
ENSBTAG00000013869	SH3BP4	5	125	-0.439	-0.018	Increase:1 Gain:2 Lost:2
ENSBTAG00000025531	PSORS1C 2	2	45	-0.394	-0.018	Lost:2
ENSBTAG00000011397	UNC13B	4	140	-0.612	-0.017	Increase:3 Gain:1
ENSBTAG00000016726	KIF15	2	31	-0.271	-0.017	Gain:2
ENSBTAG00000026586	PPP1R14C	2	40	-0.349	-0.017	Decrease:1 Gain:1
ENSBTAG00000019630	RGL1	1	12	-0.209	-0.017	Gain:1
ENSBTAG00000000073	LRPAP1	2	38	-0.33	-0.017	Increase:1 Gain:1
ENSBTAG00000017872	ZNF304	3	69	-0.397	-0.017	Gain:2 Lost:1
ENSBTAG00000018897	PSMD11	2	49	-0.422	-0.017	Gain:2
ENSBTAG00000015092	NOL12	3	61	-0.35	-0.017	Increase:2 Gain:1
ENSBTAG00000016956	GANAB	3	79	-0.452	-0.017	Gain:2 Lost:1
ENSBTAG00000021251	RIPK4	3	79	-0.45	-0.017	Lost:3
ENSBTAG00000005225	RAD52	3	63	-0.357	-0.017	Gain:2 Lost:1
ENSBTAG00000003956	SGCA	3	73	-0.413	-0.017	Gain:3
ENSBTAG00000021553	PTPN14	2	21	-0.178	-0.017	Lost:2
ENSBTAG00000004259	HPCAL1	2	55	-0.466	-0.017	Gain:2
ENSBTAG00000047520	MPV17L	2	40	-0.338	-0.017	Increase:1 Lost:1
ENSBTAG00000019073	TRAF7	2	36	-0.304	-0.017	Gain:2
ENSBTAG00000000080	GRWD1	3	62	-0.349	-0.017	Increase:1 Decrease:1
ENSBTAG00000021739	NPPB	1	15	-0.253	-0.017	Lost:1
ENSBTAG00000014734	CHD4	2	37	-0.31	-0.017	Gain:2

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000008096	EDN1	3	94	-0.525	-0.017	Lost:3
ENSBTAG00000006844	LEF1	3	57	-0.318	-0.017	Gain:3
ENSBTAG00000002823	MPZL1	4	152	-0.635	-0.017	Increase:1 Gain:3
ENSBTAG00000012698	HDAC1	2	54	-0.45	-0.017	Increase:1 Gain:1
ENSBTAG00000021955	NPC2	2	54	-0.449	-0.017	Decrease:1 Lost:1
ENSBTAG00000000910	SLC6A7	4	139	-0.577	-0.017	Gain:1 Lost:3
ENSBTAG00000020294	PTPN6	1	16	-0.265	-0.017	Lost:1
ENSBTAG00000002341	ETS1	1	32	-0.529	-0.017	Lost:1
ENSBTAG00000018499	ANXA8L1	4	75	-0.307	-0.016	Increase:1 Gain:3
ENSBTAG00000015267	SGSH	4	67	-0.273	-0.016	Lost:4
ENSBTAG00000001484	LZTFL1	1	7	-0.114	-0.016	Lost:1
ENSBTAG00000004452	IPO9	3	53	-0.286	-0.016	Gain:1 Lost:2
ENSBTAG00000011726	CRYL1	2	44	-0.355	-0.016	Lost:2
ENSBTAG00000018020	GNAT1	5	159	-0.508	-0.016	Decrease:3 Gain:2
ENSBTAG00000011495	DIP2A	2	35	-0.278	-0.016	Lost:2
ENSBTAG00000017017	CTPS2	2	21	-0.166	-0.016	Gain:1 Lost:1
ENSBTAG00000039688	FAM101A	1	10	-0.158	-0.016	Gain:1
ENSBTAG00000030335	ALDH4A1	3	97	-0.509	-0.016	Lost:3
ENSBTAG00000003490	ELMO1	3	111	-0.582	-0.016	Decrease:2 Gain:1
ENSBTAG00000018036	CNOT7	5	114	-0.358	-0.016	Gain:3 Lost:2
ENSBTAG00000017086	GRB10	4	157	-0.614	-0.016	Increase:3 Lost:1
ENSBTAG00000006125	PLK3	1	24	-0.375	-0.016	Gain:1
ENSBTAG00000016494	RELT	4	92	-0.359	-0.016	Decrease:2 Lost:2
ENSBTAG00000003455	ANKRD6	2	111	-0.865	-0.016	Gain:1 Lost:1
ENSBTAG00000046936	MRFAP1	2	65	-0.506	-0.016	Lost:2
ENSBTAG00000026708	PRSS35	3	113	-0.586	-0.016	Increase:1 Gain:1 Lost:1
ENSBTAG00000001708	TTLL12	5	112	-0.348	-0.016	Increase:4 Gain:1

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000016168	APLP2	1	15	-0.233	-0.016	Lost:1
ENSBTAG00000019988	GNA15	2	39	-0.302	-0.015	Gain:1 Lost:1
ENSBTAG00000031178	SLC9A9	4	118	-0.455	-0.015	Gain:3 Lost:1
ENSBTAG00000037649	VIPR2	1	17	-0.262	-0.015	Gain:1
ENSBTAG00000008579	RCC2	3	120	-0.616	-0.015	Gain:2 Lost:1
ENSBTAG00000006740	SCYL1	1	10	-0.153	-0.015	Lost:1
ENSBTAG00000034657		1	10	-0.153	-0.015	Lost:1
ENSBTAG00000020342	MYOC	2	53	-0.402	-0.015	Lost:2
ENSBTAG00000012078	TMEM176A	3	59	-0.297	-0.015	Gain:3
ENSBTAG00000012865	DEK	4	92	-0.347	-0.015	Decrease:2 Gain:2
ENSBTAG00000021957	LTBP2	4	60	-0.226	-0.015	Decrease:1 Lost:3
ENSBTAG00000027764	EID1	4	84	-0.313	-0.015	Lost:4
ENSBTAG00000020597	FMO3	1	15	-0.223	-0.015	Lost:1
ENSBTAG00000021410	C1GALT1C1	2	54	-0.401	-0.015	Lost:2
ENSBTAG00000009738	MGAT4B	2	48	-0.355	-0.015	Gain:2
ENSBTAG00000039075	ZNF527	2	56	-0.414	-0.015	Gain:2
ENSBTAG00000002126	PFKFB2	4	138	-0.51	-0.015	Increase:1 Gain:3
ENSBTAG00000014498		1	12	-0.176	-0.015	Lost:1
ENSBTAG00000018164	FNDC4	2	82	-0.599	-0.015	Gain:2
ENSBTAG00000015154	MCL1	5	170	-0.496	-0.015	Increase:2 Gain:3
ENSBTAG00000003652	TMEM128	3	62	-0.3	-0.015	Gain:1 Lost:2
ENSBTAG00000011256	MYO1B	3	74	-0.358	-0.015	Gain:3
ENSBTAG00000000575	TNC	2	43	-0.309	-0.014	Gain:1 Lost:1
ENSBTAG00000002477	FTSJ2	3	76	-0.364	-0.014	Increase:1 Gain:1 Lost:1
ENSBTAG00000006305	AK1	1	25	-0.359	-0.014	Lost:1
ENSBTAG00000031814	SDS	2	29	-0.208	-0.014	Gain:1 Lost:1
ENSBTAG00000020023	MTHFS	4	94	-0.336	-0.014	Gain:3 Lost:1

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000008185	RTN2	2	34	-0.242	-0.014	Gain:2
ENSBTAG00000017132	TTC22	4	151	-0.537	-0.014	Increase:1 Gain:2 Lost:1
ENSBTAG00000017661	RFX2	4	155	-0.551	-0.014	Increase:1 Decrease:2
ENSBTAG00000012249	PRR15L	2	66	-0.469	-0.014	Gain:2
ENSBTAG00000047998		1	19	-0.27	-0.014	Lost:1
ENSBTAG00000024723	CHCHD3	2	49	-0.348	-0.014	Gain:1 Lost:1
ENSBTAG00000001592	INSIG1	3	125	-0.591	-0.014	Increase:1 Gain:2
ENSBTAG00000005940	PRKAB1	3	93	-0.436	-0.014	Increase:3
ENSBTAG00000006024	ISLR	3	92	-0.431	-0.014	Increase:1 Gain:1 Lost:1
ENSBTAG00000003035	IMPACT	3	174	-0.814	-0.014	Gain:2 Lost:1
ENSBTAG00000019457	MRPL22	1	12	-0.168	-0.014	Lost:1
ENSBTAG00000021939	ELAC2	3	73	-0.338	-0.014	Increase:1 Decrease:1
ENSBTAG00000026919	PXDC1	2	48	-0.333	-0.014	Increase:1 Gain:1
ENSBTAG00000016666	KIAA1468	4	118	-0.409	-0.014	Gain:4
ENSBTAG00000000711	NDRG1	3	104	-0.48	-0.014	Increase:2 Decrease:1
ENSBTAG00000009417	ZFAND5	2	52	-0.359	-0.014	Gain:2
ENSBTAG00000003012	TRAF1	3	101	-0.464	-0.014	Decrease:1 Gain:2
ENSBTAG00000019066	FAM167A	4	215	-0.739	-0.014	Increase:2 Lost:2
ENSBTAG00000003983	TOM1L2	2	51	-0.35	-0.014	Decrease:1 Gain:1
ENSBTAG00000021771	PTTG1IP	4	144	-0.493	-0.014	Decrease:2 Lost:2
ENSBTAG00000014438	SS18L1	5	148	-0.405	-0.014	Gain:5
ENSBTAG00000009131	TTC37	1	6	-0.082	-0.014	Lost:1
ENSBTAG00000014078	IGFBPL1	3	139	-0.632	-0.014	Gain:1 Lost:2
ENSBTAG00000007759	ABCB8	4	145	-0.491	-0.014	Gain:3 Lost:1
ENSBTAG00000015520	SLC11A1	2	51	-0.344	-0.013	Gain:1 Lost:1
ENSBTAG00000013653	NFE2L1	8	229	-0.385	-0.013	Increase:3 Decrease:3
ENSBTAG00000010279	DUSP14	2	45	-0.302	-0.013	Gain:2

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000019026	EXTL2	4	149	-0.498	-0.013	Gain:4
ENSBTAG00000016890	ANKS1A	2	51	-0.34	-0.013	Increase:1 Gain:1
ENSBTAG00000014001	MAP1A	2	14	-0.093	-0.013	Lost:2
ENSBTAG00000018535	CDK5RAP1	2	21	-0.139	-0.013	Lost:2
ENSBTAG00000010509	CDK3	3	46	-0.202	-0.013	Gain:2 Lost:1
ENSBTAG00000010284	AGXT2L1	2	29	-0.191	-0.013	Gain:2
ENSBTAG00000000218	MAP2K5	1	19	-0.247	-0.013	Lost:1
ENSBTAG00000027205	PGBD5	2	42	-0.272	-0.013	Lost:2
ENSBTAG00000002923	CX3CR1	3	163	-0.701	-0.013	Lost:3
ENSBTAG00000012156	NAIF1	4	132	-0.424	-0.013	Decrease:1 Lost:2
ENSBTAG00000015757	PHYHIP	3	139	-0.595	-0.013	Increase:3
ENSBTAG00000009047	YPEL3	1	42	-0.536	-0.013	Gain:1
ENSBTAG00000020199	F2R	4	128	-0.408	-0.013	Lost:4
ENSBTAG00000007434	CD300LG	3	116	-0.493	-0.013	Increase:1 Gain:2
ENSBTAG00000032018	ZNF19	6	185	-0.393	-0.013	Lost:6
ENSBTAG00000019585	MYOM1	2	57	-0.363	-0.013	Gain:2
ENSBTAG00000002085	IL36G	1	14	-0.178	-0.013	Lost:1
ENSBTAG00000013885	ADSS	2	50	-0.317	-0.013	Lost:2
ENSBTAG00000008109	TMEM97	3	71	-0.3	-0.013	Increase:2 Gain:1
ENSBTAG00000015536	CPNE3	4	115	-0.364	-0.013	Gain:2 Lost:2
ENSBTAG00000000564	HMP19	4	133	-0.42	-0.013	Increase:1 Gain:3
ENSBTAG00000025593	C10H15orf 57	2	61	-0.384	-0.013	Gain:2
ENSBTAG00000017056	PKLR	4	104	-0.327	-0.013	Lost:4
ENSBTAG00000014295	CAPZA1	3	122	-0.509	-0.013	Increase:1 Gain:2
ENSBTAG00000047975	DOK5	2	43	-0.266	-0.012	Increase:1 Gain:1
ENSBTAG00000016253	G6PC3	2	48	-0.296	-0.012	Gain:2
ENSBTAG00000039968	TMEM55A	1	19	-0.234	-0.012	Lost:1

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000016389	UBL4B	2	85	-0.523	-0.012	Gain:1 Lost:1
ENSBTAG00000024379	LRRC17	1	20	-0.246	-0.012	Lost:1
ENSBTAG00000001186		2	15	-0.092	-0.012	Lost:2
ENSBTAG00000005791	UROS	2	29	-0.176	-0.012	Gain:1 Lost:1
ENSBTAG00000008624	MESDC1	2	58	-0.352	-0.012	Gain:2
ENSBTAG00000026263	ZNF45	2	77	-0.466	-0.012	Gain:2
ENSBTAG00000010916	LHFPL4	5	245	-0.592	-0.012	Increase:2 Gain:1 Lost:2
ENSBTAG00000047766	G0S2	2	27	-0.162	-0.012	Gain:1 Lost:1
ENSBTAG00000007273	TF	1	19	-0.226	-0.012	Lost:1
ENSBTAG00000031377	SYCP2L	1	18	-0.214	-0.012	Gain:1
ENSBTAG00000012968	COA1	1	25	-0.297	-0.012	Lost:1
ENSBTAG00000014199	TBX21	2	123	-0.729	-0.012	Gain:1 Lost:1
ENSBTAG00000002414	KCNJ10	5	248	-0.586	-0.012	Gain:3 Lost:2
ENSBTAG00000030616	ZCCHC10	1	21	-0.248	-0.012	Gain:1
ENSBTAG00000001446	ABRACL	1	37	-0.432	-0.012	Gain:1
ENSBTAG00000024772	TRIP6	1	14	-0.163	-0.012	Gain:1
ENSBTAG00000003695	WDR45L	2	66	-0.384	-0.012	Lost:2
ENSBTAG00000016980	PPIL4	4	185	-0.537	-0.012	Increase:1 Decrease:1
ENSBTAG00000019037	AQP4	6	249	-0.48	-0.012	Increase:1 Decrease:1
ENSBTAG00000013133	TBC1D10C	3	80	-0.307	-0.012	Gain:3
ENSBTAG00000012985	FUK	3	65	-0.249	-0.011	Lost:3
ENSBTAG00000010658	PFKL	1	43	-0.494	-0.011	Gain:1
ENSBTAG00000010460	MARK1	4	150	-0.43	-0.011	Gain:1 Lost:3
ENSBTAG00000003501	SACM1L	3	109	-0.416	-0.011	Gain:3
ENSBTAG00000021428	CNDP1	3	93	-0.354	-0.011	Gain:3
ENSBTAG00000010889	FSHB	3	74	-0.281	-0.011	Decrease:2 Lost:1
ENSBTAG00000014046	BPI	1	24	-0.271	-0.011	Gain:1

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000004472	DYNLT1	1	11	-0.124	-0.011	Lost:1
ENSBTAG00000016152	DAB2	4	143	-0.403	-0.011	Gain:2 Lost:2
ENSBTAG00000017133	GINS4	3	138	-0.516	-0.011	Decrease:1 Gain:2
ENSBTAG00000006345	ART1	3	88	-0.329	-0.011	Lost:3
ENSBTAG00000023929	FOSL2	2	116	-0.65	-0.011	Increase:2
ENSBTAG00000019509	NUDT5	3	119	-0.444	-0.011	Gain:1 Lost:2
ENSBTAG00000005122	KNG1	3	115	-0.427	-0.011	Gain:3
ENSBTAG00000008576	PLEKHD1	1	34	-0.378	-0.011	Lost:1
ENSBTAG00000018996	PARK2	2	43	-0.239	-0.011	Increase:1 Gain:1
ENSBTAG00000000380	C5H12orf39	3	90	-0.333	-0.011	Increase:1 Gain:1 Lost:1
ENSBTAG00000010802	KCNK7	1	11	-0.122	-0.011	Lost:1
ENSBTAG00000021397	NKX2-3	2	61	-0.336	-0.011	Lost:2
ENSBTAG00000016622	C22H3orf23	4	176	-0.48	-0.011	Decrease:1 Gain:1 Lost:2
ENSBTAG00000003045	BAMBI	3	130	-0.472	-0.011	Gain:2 Lost:1
ENSBTAG00000017116	RASD2	3	145	-0.523	-0.011	Gain:1 Lost:2
ENSBTAG00000005679	TMEM130	2	95	-0.512	-0.011	Increase:1 Gain:1
ENSBTAG00000003415	ESD	2	78	-0.416	-0.011	Gain:2
ENSBTAG00000002332	LSM5	3	58	-0.206	-0.011	Gain:3
ENSBTAG00000002010	PI4K2A	4	163	-0.434	-0.011	Increase:1 Gain:2 Lost:1
ENSBTAG00000007870	FKBP14	3	155	-0.55	-0.011	Gain:3
ENSBTAG00000016252	LSM12	2	131	-0.694	-0.011	Increase:1 Lost:1
ENSBTAG00000015090	SGTA	4	102	-0.269	-0.011	Gain:2 Lost:2
ENSBTAG00000019704	HLTF	1	34	-0.358	-0.011	Lost:1
ENSBTAG00000004738	LRRC47	3	119	-0.416	-0.010	Increase:1 Gain:2
ENSBTAG00000000394	BACE2	1	12	-0.125	-0.010	Lost:1
ENSBTAG00000001405	GLCE	4	143	-0.372	-0.010	Decrease:1 Gain:1 Lost:2
ENSBTAG00000003419	EAPP	4	184	-0.478	-0.010	Increase:3 Lost:1

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000003506	STEAP2	1	23	-0.238	-0.010	Lost:1
ENSBTAG00000004191	JMJD4	1	6	-0.062	-0.010	Lost:1
ENSBTAG00000005015	SFXN3	3	142	-0.487	-0.010	Increase:2 Lost:1
ENSBTAG00000007859	VSIG1	3	91	-0.311	-0.010	Lost:3
ENSBTAG00000011424	TPM2	2	130	-0.666	-0.010	Gain:2
ENSBTAG00000039556	WIPI1	1	26	-0.265	-0.010	Lost:1
ENSBTAG00000013499	LHX9	3	109	-0.363	-0.010	Lost:3
ENSBTAG00000038347	SLC17A6	3	111	-0.368	-0.010	Gain:3
ENSBTAG00000030749	DNAJC6	4	145	-0.359	-0.010	Increase:1 Gain:2 Lost:1
ENSBTAG00000007578	KIAA1598	2	95	-0.464	-0.010	Gain:1 Lost:1
ENSBTAG00000016770	GAPT	2	68	-0.329	-0.010	Decrease:1 Lost:1
ENSBTAG00000000440	HSPB2	1	20	-0.192	-0.010	Decrease:1
ENSBTAG00000027162	TMCO5A	2	45	-0.216	-0.010	Lost:2
ENSBTAG00000031598	GBAS	2	70	-0.335	-0.010	Gain:2
ENSBTAG00000046977	PLA2G2D4	1	35	-0.335	-0.010	Gain:1
ENSBTAG00000040512	PCP4L1	2	81	-0.387	-0.010	Gain:1 Lost:1
ENSBTAG00000010992	CTSH	1	26	-0.246	-0.009	Lost:1
ENSBTAG00000004926	LRR1	1	27	-0.255	-0.009	Lost:1
ENSBTAG00000013478	MARVELD 1	3	144	-0.452	-0.009	Decrease:1 Gain:2
ENSBTAG00000019107	GAS7	3	153	-0.48	-0.009	Increase:3
ENSBTAG00000005105	PAFAH2	3	101	-0.315	-0.009	Increase:1 Gain:1 Lost:1
ENSBTAG00000002352	GGA2	3	106	-0.33	-0.009	Lost:3
ENSBTAG00000003064	GCFC1	2	131	-0.602	-0.009	Lost:2
ENSBTAG00000031871	NKAPL	5	142	-0.261	-0.009	Gain:2 Lost:3
ENSBTAG00000014525	SLC6A13	1	27	-0.248	-0.009	Lost:1
ENSBTAG00000012622	TRA2A	1	33	-0.303	-0.009	Decrease:1
ENSBTAG00000014912	FMOD	4	119	-0.272	-0.009	Increase:1 Gain:1 Lost:2

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000032236	CA1	2	44	-0.201	-0.009	Gain:1 Lost:1
ENSBTAG00000017251	SLC26A8	2	39	-0.178	-0.009	Lost:2
ENSBTAG00000013406	CSRP2	1	28	-0.255	-0.009	Lost:1
ENSBTAG00000013030	LRRC8A	1	50	-0.455	-0.009	Gain:1
ENSBTAG00000000748	GAR1	1	21	-0.19	-0.009	Lost:1
ENSBTAG00000010413	TMEM169	1	39	-0.352	-0.009	Gain:1
ENSBTAG00000005851	VTA1	3	90	-0.27	-0.009	Lost:3
ENSBTAG00000009949	DARS	1	15	-0.135	-0.009	Lost:1
ENSBTAG00000020968	BRP44	1	23	-0.206	-0.009	Increase:1
ENSBTAG00000009541	SUCLG2	2	63	-0.282	-0.009	Decrease:2
ENSBTAG00000025942	HPGD	2	109	-0.485	-0.009	Gain:2
ENSBTAG00000022004	FLNB	2	130	-0.578	-0.009	Lost:2
ENSBTAG00000021263	CYP4V2	3	165	-0.489	-0.009	Lost:3
ENSBTAG00000007365	NEIL1	3	82	-0.242	-0.009	Increase:1 Gain:2
ENSBTAG00000017184	ZBTB33	4	183	-0.404	-0.009	Decrease:2 Gain:2
ENSBTAG00000027390	RTFDC1	1	21	-0.185	-0.009	Lost:1
ENSBTAG00000016045	TRIB2	2	110	-0.484	-0.009	Lost:2
ENSBTAG00000005043	TIMP1	1	5	-0.044	-0.009	Gain:1
ENSBTAG00000006694	CXCL14	2	94	-0.413	-0.009	Gain:2
ENSBTAG00000024942	RPRML	1	22	-0.193	-0.009	Decrease:1
ENSBTAG00000019209	RAD1	2	133	-0.581	-0.009	Increase:1 Lost:1
ENSBTAG00000003910	LOC613508	1	22	-0.192	-0.009	Lost:1
ENSBTAG00000018488	AFF1	2	78	-0.34	-0.009	Gain:1 Lost:1
ENSBTAG00000007622	CTSD	1	56	-0.488	-0.009	Increase:1
ENSBTAG00000005807	MICU1	3	87	-0.252	-0.009	Increase:1 Lost:2
ENSBTAG00000002985	KCNMB1	3	151	-0.436	-0.009	Gain:3
ENSBTAG00000000979	C27H8orf40	2	132	-0.568	-0.009	Gain:2

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000006843	UTP15	3	160	-0.458	-0.009	Gain:1 Lost:2
ENSBTAG00000033331	CHMP1A	2	91	-0.389	-0.009	Lost:2
ENSBTAG00000016145	ADAMTS19	1	15	-0.127	-0.008	Lost:1
ENSBTAG00000017038	HPS4	2	99	-0.419	-0.008	Gain:1 Lost:1
ENSBTAG00000017082	POR	1	15	-0.123	-0.008	Lost:1
ENSBTAG00000015648	DNAJC21	1	32	-0.262	-0.008	Lost:1
ENSBTAG00000021731	TGFBRAP1	3	169	-0.461	-0.008	Decrease:1 Gain:1 Lost:1
ENSBTAG00000032819		1	23	-0.188	-0.008	Lost:1
ENSBTAG00000032961	IER3IP1	1	20	-0.163	-0.008	Lost:1
ENSBTAG00000021964	CDH17	2	84	-0.342	-0.008	Increase:1 Lost:1
ENSBTAG00000031069	SNX24	2	104	-0.423	-0.008	Gain:1 Lost:1
ENSBTAG00000017529	CA8	2	64	-0.26	-0.008	Lost:2
ENSBTAG00000026192	C25H7ORF 50	3	139	-0.376	-0.008	Increase:1 Gain:2
ENSBTAG00000005356	ST5	2	59	-0.239	-0.008	Increase:1 Gain:1
ENSBTAG00000017287	DRAM1	2	151	-0.606	-0.008	Gain:1 Lost:1
ENSBTAG00000009481	C3H1orf87	2	60	-0.24	-0.008	Gain:1 Lost:1
ENSBTAG00000016108	BTBD2	1	1	-0.008	-0.008	Lost:1
ENSBTAG00000034498	LY6D	1	18	-0.144	-0.008	Gain:1
ENSBTAG00000035244	ANKRD39	2	70	-0.28	-0.008	Gain:2
ENSBTAG00000019589	C1H21orf2	2	76	-0.301	-0.008	Increase:1 Lost:1
ENSBTAG00000013411	ENO1	1	31	-0.245	-0.008	Lost:1
ENSBTAG00000003016	PTPN7	3	126	-0.33	-0.008	Increase:1 Gain:2
ENSBTAG00000007681	DHFR	2	92	-0.361	-0.008	Lost:2
ENSBTAG00000015118	PNPLA1	2	105	-0.412	-0.008	Increase:1 Gain:1
ENSBTAG00000011133	AP1S3	2	128	-0.501	-0.008	Decrease:1 Lost:1
ENSBTAG00000013105	SYT3	2	50	-0.194	-0.008	Gain:1 Lost:1
ENSBTAG00000015251	ALG13	2	115	-0.446	-0.008	Decrease:1 Lost:1

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000010662	LIMK2	2	57	-0.22	-0.008	Gain:2
ENSBTAG00000021078	PYROXD1	1	41	-0.316	-0.008	Gain:1
ENSBTAG00000001506	HTT	2	60	-0.231	-0.008	Gain:1 Lost:1
ENSBTAG00000010467	SUPT5H	1	16	-0.121	-0.008	Gain:1
ENSBTAG00000004247	RPH3A	3	147	-0.37	-0.008	Increase:2 Lost:1
ENSBTAG00000017104	MUC1	1	33	-0.249	-0.008	Lost:1
ENSBTAG00000013031	TMEM62	1	15	-0.113	-0.008	Lost:1
ENSBTAG00000016096	SYP	2	108	-0.405	-0.008	Gain:2
ENSBTAG00000016465	DHCR7	3	113	-0.282	-0.007	Lost:3
ENSBTAG00000039620	SAPCD1	1	27	-0.202	-0.007	Gain:1
ENSBTAG00000001004	ESAM	2	65	-0.242	-0.007	Gain:2
ENSBTAG00000015854	TCHHL1	2	92	-0.342	-0.007	Gain:1 Lost:1
ENSBTAG00000033345	STAR	2	48	-0.178	-0.007	Gain:1 Lost:1
ENSBTAG00000019848	UNG	6	85	-0.105	-0.007	Lost:6
ENSBTAG00000012675	MYO19	2	71	-0.263	-0.007	Gain:2
ENSBTAG00000020394	TNFAIP8L2	1	53	-0.392	-0.007	Gain:1
ENSBTAG00000000703	ST6GAL2	2	76	-0.277	-0.007	Decrease:1 Lost:1
ENSBTAG00000015810	PLET1	2	65	-0.236	-0.007	Lost:2
ENSBTAG00000017075	STX1A	3	155	-0.375	-0.007	Increase:1 Gain:1 Lost:1
ENSBTAG00000004004	CSDC2	4	164	-0.297	-0.007	Decrease:1 Gain:2 Lost:1
ENSBTAG00000011883	ARL1	1	23	-0.166	-0.007	Lost:1
ENSBTAG00000012363	LOC100125266	2	63	-0.226	-0.007	Gain:1 Lost:1
ENSBTAG00000021872	RASGRP1	2	94	-0.337	-0.007	Gain:2
ENSBTAG00000020751	HSF1	1	16	-0.114	-0.007	Gain:1
ENSBTAG00000001258	TMEM50B	2	134	-0.477	-0.007	Gain:1 Lost:1
ENSBTAG00000006193	IRAK2	2	73	-0.258	-0.007	Lost:2
ENSBTAG00000003557	CCDC117	3	176	-0.412	-0.007	Gain:1 Lost:2

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000005859	LALBA	1	30	-0.21	-0.007	Gain:1
ENSBTAG00000014375	TMCC3	2	82	-0.286	-0.007	Gain:2
ENSBTAG00000020689	PPP1R13L	2	58	-0.202	-0.007	Gain:1 Lost:1
ENSBTAG00000015979	SEZ6	2	94	-0.327	-0.007	Decrease:2
ENSBTAG00000005578	KAT5	1	37	-0.257	-0.007	Decrease:1
ENSBTAG00000040188	OR12D2	2	62	-0.215	-0.007	Increase:1 Decrease:1
ENSBTAG00000030897	XRCC2	3	135	-0.31	-0.007	Gain:1 Lost:2
ENSBTAG00000014175	STRAP	2	115	-0.396	-0.007	Gain:2
ENSBTAG00000002758	THBD	3	126	-0.287	-0.007	Increase:1 Decrease:1
ENSBTAG00000021721	CDSN	1	48	-0.326	-0.007	Gain:1
ENSBTAG00000002381	ZDHHC5	2	86	-0.292	-0.007	Decrease:1 Gain:1
ENSBTAG00000010378	PEF1	2	75	-0.254	-0.007	Increase:1 Gain:1
ENSBTAG00000011115	CH25H	1	22	-0.149	-0.007	Lost:1
ENSBTAG00000019987	RPP14	2	110	-0.371	-0.007	Lost:2
ENSBTAG00000008120	TMEM199	3	117	-0.263	-0.007	Gain:3
ENSBTAG00000016313	ECH1	1	11	-0.074	-0.007	Lost:1
ENSBTAG00000000855	NXN	4	134	-0.222	-0.007	Lost:4
ENSBTAG00000000306	ITK	5	206	-0.273	-0.007	Increase:3 Decrease:1
ENSBTAG00000008729	FAM45A	2	123	-0.407	-0.007	Gain:2
ENSBTAG00000016581	MRPL28	1	28	-0.185	-0.007	Lost:1
ENSBTAG00000010126	PCIF1	2	119	-0.392	-0.007	Gain:2
ENSBTAG00000021181	BUB1	1	41	-0.269	-0.007	Lost:1
ENSBTAG00000011944	MTTP	2	72	-0.236	-0.007	Increase:1 Lost:1
ENSBTAG00000015066	LANCL1	2	148	-0.485	-0.007	Increase:1 Gain:1
ENSBTAG00000011952	SULT1E1	2	58	-0.19	-0.007	Decrease:1 Lost:1
ENSBTAG00000012406	ZBP1	1	36	-0.235	-0.007	Lost:1
ENSBTAG00000003636	LIPA	2	116	-0.378	-0.007	Increase:1 Lost:1

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000010555	C4H7orf53	1	32	-0.208	-0.007	Lost:1
ENSBTAG00000010498	SLC40A1	2	102	-0.331	-0.006	Gain:1 Lost:1
ENSBTAG00000000390	TPST1	1	40	-0.259	-0.006	Gain:1
ENSBTAG00000006506	GIT2	2	89	-0.286	-0.006	Decrease:1 Lost:1
ENSBTAG00000017450	KLHL24	1	17	-0.109	-0.006	Gain:1
ENSBTAG00000011766	C7	2	70	-0.224	-0.006	Lost:2
ENSBTAG00000016984	PTPN9	2	139	-0.443	-0.006	Lost:2
ENSBTAG00000000807	TMED3	2	49	-0.156	-0.006	Gain:2
ENSBTAG00000034147	OLFML2B	1	33	-0.21	-0.006	Gain:1
ENSBTAG00000008133	ALKBH1	2	150	-0.477	-0.006	Gain:1 Lost:1
ENSBTAG00000014794	SCYL3	3	260	-0.549	-0.006	Increase:1 Lost:2
ENSBTAG00000005082	MED21	1	21	-0.132	-0.006	Lost:1
ENSBTAG00000002411	CTNND1	2	163	-0.512	-0.006	Increase:1 Gain:1
ENSBTAG00000008025	UBE3C	2	109	-0.342	-0.006	Decrease:1 Lost:1
ENSBTAG00000040598	CXXC11	1	26	-0.162	-0.006	Increase:1
ENSBTAG00000013167	SIGLEC1	1	46	-0.286	-0.006	Lost:1
ENSBTAG00000001936	PCK1	1	56	-0.348	-0.006	Gain:1
ENSBTAG00000044099	ZSWIM7	2	77	-0.239	-0.006	Lost:2
ENSBTAG00000001551	PLEKHG3	1	44	-0.273	-0.006	Gain:1
ENSBTAG00000003332	RPP40	1	20	-0.124	-0.006	Lost:1
ENSBTAG00000018046	B3GNT2	3	100	-0.206	-0.006	Increase:1 Gain:1 Lost:1
ENSBTAG00000003997	UBE2D4	2	79	-0.244	-0.006	Lost:2
ENSBTAG00000016287	UNK	3	148	-0.304	-0.006	Increase:1 Decrease:1
ENSBTAG00000010505	INTS4	3	168	-0.345	-0.006	Decrease:1 Lost:2
ENSBTAG00000017325	ATG13	3	171	-0.351	-0.006	Increase:1 Gain:2
ENSBTAG00000013227	SNAI2	2	85	-0.26	-0.006	Gain:1 Lost:1
ENSBTAG00000010620	ATP6V1B1	2	73	-0.223	-0.006	Increase:1 Gain:1

Supplementary table 2 – SSr-ranked genes with 3’UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000002211	MAPK8IP3	2	165	-0.501	-0.006	Gain:2
ENSBTAG00000023731	MC1R	2	55	-0.167	-0.006	Gain:2
ENSBTAG00000000638	CDT1	1	33	-0.199	-0.006	Gain:1
ENSBTAG00000021819	IFNAR1	2	86	-0.259	-0.006	Increase:1 Gain:1
ENSBTAG00000013889	TMEM141	2	47	-0.141	-0.006	Gain:2
ENSBTAG00000037465	TRIM6	2	58	-0.174	-0.006	Gain:2
ENSBTAG00000002690	BLZF1	1	26	-0.155	-0.006	Lost:1
ENSBTAG00000001607	TMEM41B	3	127	-0.252	-0.006	Decrease:3
ENSBTAG00000002508	GNG3	1	35	-0.208	-0.006	Gain:1
ENSBTAG00000004048	MCHR1	1	55	-0.325	-0.006	Lost:1
ENSBTAG00000017855	ITM2C	2	89	-0.262	-0.006	Decrease:1 Lost:1
ENSBTAG00000010334	SYTL3	1	15	-0.088	-0.006	Gain:1
ENSBTAG00000013184	CEP120	2	129	-0.378	-0.006	Lost:2
ENSBTAG00000019712		1	33	-0.193	-0.006	Gain:1
ENSBTAG00000013721	PSMD10	1	26	-0.152	-0.006	Lost:1
ENSBTAG00000013152	NIPSNAP1	4	117	-0.17	-0.006	Increase:1 Gain:2 Lost:1
ENSBTAG00000039573	RABL6	3	31	-0.06	-0.006	Gain:1 Lost:2
ENSBTAG00000010812	P2RX4	2	65	-0.188	-0.006	Lost:2
ENSBTAG00000015569	ENKUR	1	34	-0.196	-0.006	Lost:1
ENSBTAG00000000731	WFIKKN2	2	126	-0.363	-0.006	Lost:2
ENSBTAG00000009998	GALNTL1	2	131	-0.375	-0.006	Increase:1 Gain:1
ENSBTAG00000015602	C7H5orf45	1	21	-0.12	-0.006	Gain:1
ENSBTAG00000012176	QPCTL	1	43	-0.245	-0.006	Gain:1
ENSBTAG00000007871	SNX12	3	157	-0.298	-0.006	Gain:2 Lost:1
ENSBTAG00000004430	SGPP1	2	141	-0.4	-0.006	Decrease:2
ENSBTAG00000004745	NAA15	3	205	-0.387	-0.006	Gain:3
ENSBTAG00000008703	EIF2AK2	1	20	-0.113	-0.006	Gain:1

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000018631	SAP18	2	97	-0.274	-0.006	Lost:2
ENSBTAG00000008734	PM20D1	1	47	-0.265	-0.006	Lost:1
ENSBTAG00000001030	MTMR3	5	214	-0.241	-0.006	Increase:4 Gain:1
ENSBTAG00000013341	GYG2	1	24	-0.135	-0.006	Lost:1
ENSBTAG00000016648	BSG	2	64	-0.18	-0.006	Gain:2
ENSBTAG00000016848	GTF2E1	1	18	-0.101	-0.006	Gain:1
ENSBTAG00000015758	C18H16orf 57	2	126	-0.353	-0.006	Decrease:1 Lost:1
ENSBTAG00000031777	GDPD5	2	119	-0.332	-0.006	Increase:1 Lost:1
ENSBTAG00000019011	PGM1	1	66	-0.367	-0.006	Lost:1
ENSBTAG00000021254	CENPI	3	108	-0.2	-0.006	Gain:1 Lost:2
ENSBTAG00000000031	TRPV4	1	49	-0.272	-0.006	Decrease:1
ENSBTAG00000021176	CRISPLD2	2	165	-0.456	-0.006	Gain:1 Lost:1
ENSBTAG00000005797	AGXT	1	19	-0.104	-0.005	Lost:1
ENSBTAG00000011095	FAR2	3	107	-0.195	-0.005	Gain:2 Lost:1
ENSBTAG00000009034	AP3D1	3	93	-0.168	-0.005	Lost:3
ENSBTAG00000046939	LOC78480 5	3	155	-0.28	-0.005	Increase:2 Gain:1
ENSBTAG00000009278	MSL3	1	46	-0.248	-0.005	Lost:1
ENSBTAG00000027937	PRNP	3	181	-0.324	-0.005	Decrease:1 Gain:2
ENSBTAG00000008915	SF3B1	3	180	-0.322	-0.005	Gain:2 Lost:1
ENSBTAG00000004106	PRKRIP1	1	20	-0.107	-0.005	Lost:1
ENSBTAG00000038536	TRIM5	1	46	-0.246	-0.005	Gain:1
ENSBTAG00000031715	PCMTD2	2	147	-0.393	-0.005	Decrease:1 Lost:1
ENSBTAG00000003880	EMILIN2	2	52	-0.139	-0.005	Lost:2
ENSBTAG00000012837	COL6A6	1	36	-0.191	-0.005	Gain:1
ENSBTAG00000011137	MORN4	1	28	-0.148	-0.005	Gain:1
ENSBTAG00000005759	PLA2G2A	1	23	-0.121	-0.005	Gain:1
ENSBTAG00000003439	AKAP10	3	160	-0.28	-0.005	Decrease:1 Gain:1 Lost:1

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000017263	MXI1	2	158	-0.414	-0.005	Decrease:2
ENSBTAG00000021581	FHOD3	1	34	-0.178	-0.005	Gain:1
ENSBTAG00000000981	KLHDC8B	1	53	-0.277	-0.005	Gain:1
ENSBTAG00000010338	FBXO36	5	249	-0.26	-0.005	Increase:4 Decrease:1
ENSBTAG00000000266	NAB1	2	150	-0.391	-0.005	Gain:2
ENSBTAG00000003679	PAAF1	1	34	-0.177	-0.005	Gain:1
ENSBTAG00000005585		1	30	-0.156	-0.005	Gain:1
ENSBTAG00000006103	XRCC6	1	21	-0.109	-0.005	Lost:1
ENSBTAG00000009655	TNS3	1	21	-0.109	-0.005	Lost:1
ENSBTAG00000014890	CYP19A1	3	193	-0.332	-0.005	Increase:1 Lost:2
ENSBTAG00000008652	DUSP27	1	46	-0.237	-0.005	Lost:1
ENSBTAG00000023453	C18H19orf 54	2	130	-0.334	-0.005	Increase:2
ENSBTAG00000019767	MIER2	3	111	-0.189	-0.005	Lost:3
ENSBTAG00000016501	ARHGAP1	3	151	-0.255	-0.005	Decrease:2 Lost:1
ENSBTAG00000011411	SIT1	1	41	-0.207	-0.005	Lost:1
ENSBTAG00000002582	LYG2	3	179	-0.301	-0.005	Gain:1 Lost:2
ENSBTAG00000027625	SFRP1	2	163	-0.411	-0.005	Increase:1 Gain:1
ENSBTAG00000033690	BARD1	1	40	-0.201	-0.005	Lost:1
ENSBTAG00000017265	VBP1	1	48	-0.241	-0.005	Gain:1
ENSBTAG00000000149	USP40	2	59	-0.148	-0.005	Gain:1 Lost:1
ENSBTAG00000046746	COASY	1	30	-0.15	-0.005	Lost:1
ENSBTAG00000016541	CAMK1G	2	88	-0.219	-0.005	Increase:1 Lost:1
ENSBTAG00000011239	SEC11A	2	33	-0.082	-0.005	Gain:2
ENSBTAG00000010549	IFRD1	1	45	-0.223	-0.005	Lost:1
ENSBTAG00000045834	RASSF7	1	40	-0.198	-0.005	Lost:1
ENSBTAG00000018564	ZFYVE27	2	122	-0.301	-0.005	Increase:1 Lost:1
ENSBTAG00000019488	USP6NL	1	61	-0.301	-0.005	Decrease:1

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000016724	NPEPL1	1	56	-0.276	-0.005	Lost:1
ENSBTAG00000018879	ZNF451	1	37	-0.181	-0.005	Lost:1
ENSBTAG00000009698	ABCD3	2	114	-0.276	-0.005	Gain:2
ENSBTAG00000021107	STXBP5	1	56	-0.271	-0.005	Lost:1
ENSBTAG00000014677	TADA2A	1	62	-0.3	-0.005	Lost:1
ENSBTAG00000001457	C20H5orf28	2	108	-0.261	-0.005	Lost:2
ENSBTAG00000013577	SLC1A5	2	48	-0.116	-0.005	Lost:2
ENSBTAG00000006643	C6H4orf19	2	75	-0.181	-0.005	Gain:2
ENSBTAG00000010470	C29H11orf83	1	38	-0.182	-0.005	Lost:1
ENSBTAG00000021604	TMEM138	1	66	-0.315	-0.005	Lost:1
ENSBTAG00000019587	PI15	1	60	-0.286	-0.005	Gain:1
ENSBTAG00000001562	NFE2	1	17	-0.081	-0.005	Lost:1
ENSBTAG00000003762	GNB5	1	79	-0.376	-0.005	Gain:1
ENSBTAG00000007588	ERLIN1	3	152	-0.241	-0.005	Increase:1 Gain:2
ENSBTAG00000031252	CD82	2	98	-0.233	-0.005	Gain:2
ENSBTAG00000015023	TRAPPC6B	1	67	-0.318	-0.005	Gain:1
ENSBTAG00000013534	GFAP	2	149	-0.352	-0.005	Decrease:2
ENSBTAG00000038235	NOD1	1	34	-0.16	-0.005	Lost:1
ENSBTAG00000019271	NARS	1	54	-0.254	-0.005	Decrease:1
ENSBTAG00000001002	TCF7	2	149	-0.35	-0.005	Increase:2
ENSBTAG00000002678	MED18	1	36	-0.169	-0.005	Gain:1
ENSBTAG00000012938	JARID2	3	151	-0.236	-0.005	Gain:2 Lost:1
ENSBTAG00000019537	Mar-08	4	192	-0.225	-0.005	Decrease:4
ENSBTAG00000018033	PIP4K2A	1	44	-0.206	-0.005	Lost:1
ENSBTAG00000015230	PLA2G12A	2	160	-0.372	-0.005	Increase:1 Lost:1
ENSBTAG00000045828	PTBP1	4	148	-0.17	-0.005	Increase:2 Decrease:1
ENSBTAG00000011171	LOC522631	1	39	-0.179	-0.005	Gain:1

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000003958	TMEM220	2	114	-0.261	-0.005	Gain:2
ENSBTAG00000039340	SCN4B	2	198	-0.449	-0.005	Increase:1 Lost:1
ENSBTAG00000020541	PIGY	1	68	-0.308	-0.005	Lost:1
ENSBTAG00000003069	MAN1C1	1	29	-0.131	-0.005	Lost:1
ENSBTAG00000013569	CD38	1	51	-0.23	-0.005	Lost:1
ENSBTAG00000037726	PLCD1	2	32	-0.072	-0.005	Gain:1 Lost:1
ENSBTAG00000017461	SLC16A3	1	65	-0.292	-0.004	Lost:1
ENSBTAG00000016121	KRT75	1	44	-0.197	-0.004	Lost:1
ENSBTAG00000025311	GMFB	2	157	-0.351	-0.004	Lost:2
ENSBTAG00000020904	JAK3	1	30	-0.134	-0.004	Lost:1
ENSBTAG00000047708	CD99L2	1	46	-0.205	-0.004	Gain:1
ENSBTAG00000012855	LPL	3	150	-0.222	-0.004	Lost:3
ENSBTAG00000011554	SURF6	1	30	-0.133	-0.004	Gain:1
ENSBTAG00000021654	GAS2	1	79	-0.35	-0.004	Lost:1
ENSBTAG00000022622	CISH	2	84	-0.186	-0.004	Gain:2
ENSBTAG00000001805	TWSG1	2	163	-0.36	-0.004	Decrease:1 Gain:1
ENSBTAG00000039246	TRIM11	2	120	-0.265	-0.004	Decrease:1 Lost:1
ENSBTAG00000017871	GNA12	1	25	-0.11	-0.004	Lost:1
ENSBTAG00000019052	ANK3	2	211	-0.463	-0.004	Gain:2
ENSBTAG00000021709	SPI1	2	62	-0.136	-0.004	Gain:1 Lost:1
ENSBTAG00000021079	C3H1orf210	1	16	-0.07	-0.004	Lost:1
ENSBTAG00000010968	TMED1	2	70	-0.153	-0.004	Gain:2
ENSBTAG00000027246	UBD	1	27	-0.118	-0.004	Lost:1
ENSBTAG00000012623	NDP	1	63	-0.274	-0.004	Gain:1
ENSBTAG00000001774	SPRY2	1	53	-0.23	-0.004	Gain:1
ENSBTAG00000014541	PDGFA	1	53	-0.23	-0.004	Increase:1
ENSBTAG00000021602	CTTNBP2NL	1	97	-0.42	-0.004	Increase:1

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000034384	VWA3B	2	117	-0.251	-0.004	Gain:1 Lost:1
ENSBTAG00000012604	C2H1orf130	1	29	-0.124	-0.004	Gain:1
ENSBTAG00000037559	CYP2C18	1	44	-0.188	-0.004	Lost:1
ENSBTAG00000004950	BRB	1	36	-0.153	-0.004	Gain:1
ENSBTAG00000004613	CSGALNACT1	2	107	-0.227	-0.004	Gain:2
ENSBTAG00000038221	EFNA2	2	117	-0.248	-0.004	Decrease:2
ENSBTAG00000010738	CCL14	1	59	-0.25	-0.004	Lost:1
ENSBTAG00000002483	HES5	1	48	-0.203	-0.004	Gain:1
ENSBTAG00000007190	THAP6	2	196	-0.412	-0.004	Lost:2
ENSBTAG00000045704	IGSF11	1	41	-0.172	-0.004	Lost:1
ENSBTAG00000007678	MKX	1	32	-0.134	-0.004	Lost:1
ENSBTAG00000032014	MGC140080	2	44	-0.092	-0.004	Gain:2
ENSBTAG00000003954	ASH1L	3	192	-0.267	-0.004	Lost:3
ENSBTAG00000009988	SMARCB1	1	24	-0.1	-0.004	Gain:1
ENSBTAG00000008931	CREG1	2	97	-0.202	-0.004	Increase:1 Gain:1
ENSBTAG00000005193	CRTAM	2	82	-0.17	-0.004	Gain:2
ENSBTAG00000010215	CREB3L3	1	59	-0.244	-0.004	Lost:1
ENSBTAG00000002879	DCPS	2	166	-0.343	-0.004	Gain:2
ENSBTAG00000017780	DPYSL4	1	61	-0.251	-0.004	Gain:1
ENSBTAG00000027506	SNRPB2	1	27	-0.111	-0.004	Lost:1
ENSBTAG00000011732	PGAP3	2	148	-0.304	-0.004	Increase:1 Gain:1
ENSBTAG00000017115	TMEM41A	2	58	-0.119	-0.004	Gain:1 Lost:1
ENSBTAG00000020250	SLC28A1	1	63	-0.258	-0.004	Lost:1
ENSBTAG00000037972	SLC25A26	1	66	-0.27	-0.004	Gain:1
ENSBTAG00000017179	USP12	2	179	-0.366	-0.004	Increase:1 Gain:1
ENSBTAG00000004115	MYLIP	2	124	-0.253	-0.004	Gain:1 Lost:1
ENSBTAG00000012961	PAPSS1	1	53	-0.216	-0.004	Lost:1

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000021287	SLC16A7	1	54	-0.22	-0.004	Lost:1
ENSBTAG00000011593	QKI	1	56	-0.228	-0.004	Gain:1
ENSBTAG00000008001	NUCKS1	1	53	-0.215	-0.004	Increase:1
ENSBTAG00000013556	UNC13D	2	109	-0.221	-0.004	Increase:1 Decrease:1
ENSBTAG00000011484	ZDHHC3	2	131	-0.264	-0.004	Gain:1 Lost:1
ENSBTAG00000019124	EIF4EBP2	1	59	-0.237	-0.004	Gain:1
ENSBTAG00000005961	CDC42SE2	2	151	-0.302	-0.004	Gain:2
ENSBTAG00000027809	RABGAP1L	2	107	-0.214	-0.004	Lost:2
ENSBTAG00000039275	ERAP2	2	101	-0.202	-0.004	Lost:2
ENSBTAG00000000065	CRLS1	2	69	-0.137	-0.004	Gain:2
ENSBTAG00000023374	FUT1	3	107	-0.141	-0.004	Gain:1 Lost:2
ENSBTAG00000000160	CBS	1	58	-0.229	-0.004	Gain:1
ENSBTAG00000033278	F2RL3	1	38	-0.15	-0.004	Lost:1
ENSBTAG00000024983	FBXO47	2	175	-0.345	-0.004	Gain:1 Lost:1
ENSBTAG00000000919	HEY2	2	119	-0.234	-0.004	Gain:1 Lost:1
ENSBTAG00000014343	RABL5	1	43	-0.169	-0.004	Gain:1
ENSBTAG00000018167	KLHL31	1	55	-0.216	-0.004	Decrease:1
ENSBTAG00000009236	DAGLB	3	180	-0.234	-0.004	Decrease:1 Gain:1 Lost:1
ENSBTAG00000013282	NECAP2	2	80	-0.156	-0.004	Lost:2
ENSBTAG00000008700	CRCT1	1	28	-0.109	-0.004	Lost:1
ENSBTAG00000018446	GCA	2	89	-0.173	-0.004	Increase:1 Gain:1
ENSBTAG00000020031	PKD2	2	117	-0.226	-0.004	Lost:2
ENSBTAG00000004303	SLC27A2	1	29	-0.112	-0.004	Lost:1
ENSBTAG00000003191	FSCN1	1	126	-0.483	-0.004	Lost:1
ENSBTAG00000006789	FGD5	2	105	-0.201	-0.004	Increase:1 Gain:1
ENSBTAG00000020850	MUL1	2	113	-0.216	-0.004	Lost:2
ENSBTAG00000040055	CAB39	2	149	-0.283	-0.004	Lost:2

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000015611	TBC1D9B	1	46	-0.173	-0.004	Gain:1
ENSBTAG00000016208	TGM2	2	99	-0.186	-0.004	Decrease:1 Gain:1
ENSBTAG00000019008	FBXL16	2	168	-0.315	-0.004	Increase:1 Gain:1
ENSBTAG00000016704	SLC37A2	1	99	-0.371	-0.004	Gain:1
ENSBTAG00000013670	SLC46A2	2	87	-0.163	-0.004	Lost:2
ENSBTAG00000021334	C24H18orf 32	1	99	-0.368	-0.004	Lost:1
ENSBTAG00000010775	POGK	4	168	-0.156	-0.004	Increase:1 Gain:2 Lost:1
ENSBTAG00000003089	RHPN2	1	82	-0.304	-0.004	Lost:1
ENSBTAG00000011505	RABEP1	2	194	-0.359	-0.004	Decrease:2
ENSBTAG00000039493	ZNF177	2	91	-0.167	-0.004	Gain:1 Lost:1
ENSBTAG00000039391	USP27X	1	57	-0.209	-0.004	Lost:1
ENSBTAG00000007484	ACADS	1	59	-0.216	-0.004	Decrease:1
ENSBTAG00000007133	CUL2	1	44	-0.161	-0.004	Gain:1
ENSBTAG00000011366	ST8SIA6	1	115	-0.42	-0.004	Lost:1
ENSBTAG00000006928	OAT	1	58	-0.211	-0.004	Gain:1
ENSBTAG00000018375	ATCAY	1	33	-0.12	-0.004	Lost:1
ENSBTAG00000012544	IFNGR1	1	48	-0.174	-0.004	Lost:1
ENSBTAG00000020655	BSDC1	2	127	-0.23	-0.004	Gain:2
ENSBTAG00000014835	SPARC	2	95	-0.172	-0.004	Gain:2
ENSBTAG00000034184	NMS	1	5	-0.018	-0.004	Lost:1
ENSBTAG00000005565	CLN6	1	52	-0.187	-0.004	Gain:1
ENSBTAG00000031500	SHMT2	1	41	-0.147	-0.004	Gain:1
ENSBTAG00000008154	LIMD2	2	86	-0.154	-0.004	Lost:2
ENSBTAG00000014903	ABCA3	1	46	-0.164	-0.004	Gain:1
ENSBTAG00000006590	NUDT16L1	2	113	-0.201	-0.004	Gain:2
ENSBTAG00000014981	OTUB2	3	174	-0.206	-0.004	Decrease:1 Gain:1 Lost:1
ENSBTAG00000010207	NUDT21	1	11	-0.039	-0.004	Gain:1

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000033076	TRPM6	1	22	-0.078	-0.004	Lost:1
ENSBTAG00000020417	DAPK3	2	134	-0.237	-0.004	Increase:1 Gain:1
ENSBTAG00000018833	SVOP	2	123	-0.217	-0.004	Lost:2
ENSBTAG00000037996	ARMCX3	3	120	-0.141	-0.004	Decrease:1 Gain:2
ENSBTAG00000031575	VAV3	1	85	-0.299	-0.004	Lost:1
ENSBTAG00000010001	RHOT1	1	66	-0.232	-0.004	Gain:1
ENSBTAG00000016337	ACOT13	1	66	-0.232	-0.004	Lost:1
ENSBTAG00000021799	RCN3	1	50	-0.175	-0.004	Gain:1
ENSBTAG00000026278	CLDN4	1	63	-0.22	-0.003	Lost:1
ENSBTAG00000002267	ANKRD40	2	179	-0.312	-0.003	Gain:2
ENSBTAG00000013259	POLR3A	2	179	-0.312	-0.003	Decrease:1 Gain:1
ENSBTAG00000005136	ABI1	1	64	-0.223	-0.003	Lost:1
ENSBTAG00000019557	NR1I2	1	56	-0.195	-0.003	Lost:1
ENSBTAG00000020252	NLGN2	3	178	-0.206	-0.003	Increase:1 Gain:2
ENSBTAG00000002333	HOPX	1	46	-0.159	-0.003	Lost:1
ENSBTAG00000011209	SYT11	3	155	-0.178	-0.003	Decrease:1 Gain:1 Lost:1
ENSBTAG00000004316	BOD1L	2	95	-0.163	-0.003	Gain:2
ENSBTAG00000009777	NUP35	1	50	-0.171	-0.003	Lost:1
ENSBTAG00000020236	NECAB2	1	35	-0.119	-0.003	Gain:1
ENSBTAG00000003885	PEX2	1	31	-0.105	-0.003	Gain:1
ENSBTAG00000017071	C1QTNF3	2	124	-0.21	-0.003	Decrease:1 Gain:1
ENSBTAG00000017550	CSNK1G3	2	178	-0.301	-0.003	Gain:2
ENSBTAG00000039335	ARRDC2	1	90	-0.303	-0.003	Increase:1
ENSBTAG00000018893	AHCYL1	3	170	-0.189	-0.003	Lost:3
ENSBTAG00000025494	PAQR8	2	156	-0.26	-0.003	Increase:1 Lost:1
ENSBTAG00000014633	ABCD4	1	89	-0.296	-0.003	Lost:1
ENSBTAG00000011105	SLC38A2	3	205	-0.227	-0.003	Increase:3

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000004877	TRAIP	2	123	-0.204	-0.003	Gain:2
ENSBTAG00000009863	BHLHE40	2	133	-0.22	-0.003	Gain:2
ENSBTAG00000021252	TMEM35	3	88	-0.097	-0.003	Decrease:1 Lost:2
ENSBTAG00000005311	POLR3H	3	123	-0.135	-0.003	Gain:3
ENSBTAG00000005183	MVK	1	39	-0.128	-0.003	Gain:1
ENSBTAG00000008129	CLSTN3	1	57	-0.187	-0.003	Lost:1
ENSBTAG00000002634	TMEM115	1	68	-0.222	-0.003	Decrease:1
ENSBTAG00000038745	CHMP6	1	87	-0.282	-0.003	Gain:1
ENSBTAG00000025752	LEPREL4	1	39	-0.126	-0.003	Lost:1
ENSBTAG00000003058	ADRM1	1	74	-0.239	-0.003	Gain:1
ENSBTAG00000004310	UBR7	2	171	-0.276	-0.003	Gain:2
ENSBTAG00000015694	MON1B	2	212	-0.342	-0.003	Increase:1 Gain:1
ENSBTAG00000016105	H2AFY	1	41	-0.132	-0.003	Lost:1
ENSBTAG00000010487	MGC128424	2	121	-0.193	-0.003	Gain:2
ENSBTAG00000015946	RBBP5	1	44	-0.14	-0.003	Lost:1
ENSBTAG00000004822	SOX10	2	128	-0.203	-0.003	Gain:1 Lost:1
ENSBTAG00000002720	PRPF38A	2	205	-0.322	-0.003	Decrease:2
ENSBTAG00000012744	UBE2M	1	31	-0.097	-0.003	Lost:1
ENSBTAG00000032704	NAPB	2	151	-0.235	-0.003	Increase:1 Gain:1
ENSBTAG00000017873	USF1	1	55	-0.171	-0.003	Decrease:1
ENSBTAG00000005666	LRRC20	3	196	-0.202	-0.003	Gain:2 Lost:1
ENSBTAG00000011007	TTYH2	3	135	-0.139	-0.003	Increase:2 Decrease:1
ENSBTAG00000006323	SNX9	1	68	-0.21	-0.003	Gain:1
ENSBTAG00000001594	ARL6IP4	1	24	-0.074	-0.003	Gain:1
ENSBTAG00000001120	CORO6	1	76	-0.23	-0.003	Gain:1
ENSBTAG00000007479	CCDC90B	1	80	-0.242	-0.003	Gain:1
ENSBTAG00000002335	HAND1	1	89	-0.269	-0.003	Decrease:1

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000017361	BAG5	1	45	-0.136	-0.003	Lost:1
ENSBTAG00000013284	SGK3	3	148	-0.149	-0.003	Lost:3
ENSBTAG00000001847		1	67	-0.202	-0.003	Lost:1
ENSBTAG00000005892	ZAP70	2	166	-0.25	-0.003	Decrease:1 Lost:1
ENSBTAG00000000492	ASNSD1	1	10	-0.03	-0.003	Gain:1
ENSBTAG00000002216	MYOD1	1	60	-0.18	-0.003	Lost:1
ENSBTAG00000008887	PAQR3	2	128	-0.192	-0.003	Increase:1 Gain:1
ENSBTAG00000024849	LOC100138271	1	46	-0.138	-0.003	Lost:1
ENSBTAG00000009711	RPA1	1	68	-0.204	-0.003	Gain:1
ENSBTAG00000013066	IGF2	4	177	-0.132	-0.003	Lost:4
ENSBTAG00000020608	ATG9A	2	129	-0.192	-0.003	Gain:1
ENSBTAG00000005092	ROR2	1	73	-0.217	-0.003	Lost:1
ENSBTAG00000010060	SLC43A3	2	66	-0.098	-0.003	Lost:2
ENSBTAG00000019238	C8H9orf156	1	26	-0.077	-0.003	Lost:1
ENSBTAG00000000764	GIPC1	1	95	-0.28	-0.003	Increase:1
ENSBTAG00000021751	RASEF	1	180	-0.53	-0.003	Gain:1
ENSBTAG00000007177	EMP2	1	16	-0.047	-0.003	Lost:1
ENSBTAG00000014813	TCF23	1	70	-0.203	-0.003	Increase:1
ENSBTAG00000039122	PLA2G5	1	48	-0.139	-0.003	Lost:1
ENSBTAG00000022013	CBR4	2	150	-0.216	-0.003	Decrease:1 Lost:1
ENSBTAG00000010227	CPSF2	1	81	-0.232	-0.003	Lost:1
ENSBTAG00000002858	ACBD7	2	94	-0.134	-0.003	Gain:2
ENSBTAG00000001537	TSKU	2	160	-0.227	-0.003	Gain:2
ENSBTAG00000008329	CYTIP	1	88	-0.249	-0.003	Gain:1
ENSBTAG00000000869	RNF219	1	5	-0.014	-0.003	Lost:1
ENSBTAG00000015188		2	128	-0.179	-0.003	Decrease:1 Lost:1
ENSBTAG00000001725	CXCL10	2	103	-0.144	-0.003	Gain:2

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000009127	TSPYL4	2	182	-0.254	-0.003	Gain:2
ENSBTAG00000005854	COPS8	1	65	-0.181	-0.003	Gain:1
ENSBTAG00000011104	RTN4	1	80	-0.222	-0.003	Gain:1
ENSBTAG00000013935	NTPCR	1	55	-0.152	-0.003	Gain:1
ENSBTAG00000039366	CD1A	2	169	-0.233	-0.003	Gain:2
ENSBTAG00000012518	PCDH1	1	65	-0.179	-0.003	Decrease:1
ENSBTAG00000017882	LRRC3	1	44	-0.121	-0.003	Lost:1
ENSBTAG00000002717	INA	2	147	-0.202	-0.003	Decrease:1 Gain:1
ENSBTAG00000011111	COPS7A	1	99	-0.27	-0.003	Gain:1
ENSBTAG00000004940	CELF4	1	51	-0.139	-0.003	Lost:1
ENSBTAG00000011387	NAT9	2	102	-0.139	-0.003	Increase:1 Gain:1
ENSBTAG00000000355	OXLD1	1	82	-0.221	-0.003	Gain:1
ENSBTAG00000014758	WIF1	1	64	-0.172	-0.003	Lost:1
ENSBTAG00000009939	CAND1	1	24	-0.064	-0.003	Lost:1
ENSBTAG00000007192	SIDT2	2	161	-0.213	-0.003	Decrease:1 Lost:1
ENSBTAG00000007743	PUS7	1	73	-0.192	-0.003	Lost:1
ENSBTAG00000003585	CD47	2	124	-0.163	-0.003	Gain:2
ENSBTAG00000007220	CASKIN2	2	118	-0.155	-0.003	Lost:2
ENSBTAG00000009969	RNPS1	1	65	-0.17	-0.003	Lost:1
ENSBTAG00000012442	CTSB	1	84	-0.219	-0.003	Lost:1
ENSBTAG00000021941		1	35	-0.091	-0.003	Lost:1
ENSBTAG00000014166	POLR1B	1	49	-0.127	-0.003	Lost:1
ENSBTAG00000019780	USP5	1	49	-0.126	-0.003	Increase:1
ENSBTAG00000007818		1	98	-0.251	-0.003	Decrease:1
ENSBTAG00000017028	USO1	1	50	-0.128	-0.003	Lost:1
ENSBTAG00000006674	SLC13A1	1	34	-0.087	-0.003	Lost:1
ENSBTAG00000009183	SHISA5	1	81	-0.207	-0.003	Decrease:1

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000010030	EPHA4	1	78	-0.199	-0.003	Gain:1
ENSBTAG00000015801	EFNB1	1	54	-0.137	-0.003	Lost:1
ENSBTAG00000001645	AAR2	1	98	-0.246	-0.003	Lost:1
ENSBTAG00000019526	CMTM6	2	168	-0.21	-0.003	Decrease:1 Gain:1
ENSBTAG00000000123	HAO2	1	97	-0.242	-0.002	Lost:1
ENSBTAG00000018745	CEP290	1	51	-0.127	-0.002	Lost:1
ENSBTAG00000000356	CCDC137	1	96	-0.239	-0.002	Lost:1
ENSBTAG00000002321	AMT	1	80	-0.199	-0.002	Lost:1
ENSBTAG00000009337	PNMAL1	1	146	-0.362	-0.002	Gain:1
ENSBTAG00000000250	HDHD3	1	70	-0.173	-0.002	Lost:1
ENSBTAG00000015818	MMP1	1	49	-0.121	-0.002	Gain:1
ENSBTAG00000040432	CLDN3	1	43	-0.106	-0.002	Lost:1
ENSBTAG00000000752	SGOL1	1	74	-0.182	-0.002	Lost:1
ENSBTAG00000009736	CDC42BP G	2	188	-0.231	-0.002	Gain:2
ENSBTAG00000014191	QSOX1	1	57	-0.14	-0.002	Gain:1
ENSBTAG00000015596	SLCO2B1	3	136	-0.111	-0.002	Gain:3
ENSBTAG00000008596	PRICKLE1	2	110	-0.134	-0.002	Gain:2
ENSBTAG00000011539	PCGF2	2	121	-0.147	-0.002	Gain:1 Lost:1
ENSBTAG00000006738	GPR68	2	161	-0.195	-0.002	Decrease:1 Lost:1
ENSBTAG00000009087	GNG10	1	70	-0.168	-0.002	Lost:1
ENSBTAG00000004842	RSPRY1	1	128	-0.307	-0.002	Lost:1
ENSBTAG00000014237	CYTH4	2	212	-0.254	-0.002	Gain:1 Lost:1
ENSBTAG00000015889	CLCN7	1	76	-0.182	-0.002	Gain:1
ENSBTAG00000007447	NUDT4	1	130	-0.311	-0.002	Lost:1
ENSBTAG00000018432	SLC6A15	1	83	-0.198	-0.002	Gain:1
ENSBTAG00000019235	MAGOHB	1	45	-0.107	-0.002	Gain:1
ENSBTAG00000008998	PISD	1	109	-0.259	-0.002	Gain:1

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000004168	STON1	2	140	-0.166	-0.002	Increase:1 Lost:1
ENSBTAG00000011401	PDZD8	1	65	-0.154	-0.002	Lost:1
ENSBTAG00000005763	AKT1S1	1	60	-0.142	-0.002	Gain:1
ENSBTAG00000012239	SLC37A3	1	115	-0.272	-0.002	Gain:1
ENSBTAG00000008182	FOSB	2	185	-0.216	-0.002	Increase:1 Gain:1
ENSBTAG00000002417	RAB30	1	82	-0.191	-0.002	Gain:1
ENSBTAG00000017996	EGLN2	1	55	-0.127	-0.002	Gain:1
ENSBTAG00000006370	CCT3	1	89	-0.205	-0.002	Lost:1
ENSBTAG00000007605	FKBP4	1	53	-0.122	-0.002	Lost:1
ENSBTAG00000000527	ZFAND3	3	150	-0.115	-0.002	Increase:1 Decrease:2
ENSBTAG00000020989	SUSD4	1	99	-0.227	-0.002	Gain:1
ENSBTAG00000026769	ASCL2	1	41	-0.094	-0.002	Increase:1
ENSBTAG00000008497	RGS14	1	55	-0.126	-0.002	Gain:1
ENSBTAG00000021592	WRN	1	49	-0.112	-0.002	Lost:1
ENSBTAG00000014459	MAP6D1	1	113	-0.258	-0.002	Gain:1
ENSBTAG00000018834	PPP1R37	1	61	-0.139	-0.002	Lost:1
ENSBTAG00000001035	SF1	1	77	-0.175	-0.002	Gain:1
ENSBTAG00000006202	ST13	2	119	-0.135	-0.002	Gain:1 Lost:1
ENSBTAG00000010277	NKX2-2	1	65	-0.147	-0.002	Gain:1
ENSBTAG00000006676	FIBIN	2	187	-0.211	-0.002	Decrease:2
ENSBTAG00000010502	SERTAD3	1	61	-0.137	-0.002	Lost:1
ENSBTAG00000013757	CTCF	1	91	-0.202	-0.002	Gain:1
ENSBTAG00000020848	PIK3CG	1	102	-0.225	-0.002	Lost:1
ENSBTAG00000017681	RIN1	1	54	-0.119	-0.002	Gain:1
ENSBTAG00000017814	LGI4	1	35	-0.076	-0.002	Lost:1
ENSBTAG00000022731	SSR1	2	153	-0.166	-0.002	Decrease:1 Gain:1
ENSBTAG00000003499	ENPP4	2	168	-0.182	-0.002	Lost:2

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000030282	C7H5orf54	1	45	-0.097	-0.002	Gain:1
ENSBTAG00000012659	LRIF1	1	116	-0.249	-0.002	Gain:1
ENSBTAG00000031679	HSD17B13	1	116	-0.249	-0.002	Lost:1
ENSBTAG00000022044	RAB35	2	152	-0.163	-0.002	Increase:2
ENSBTAG00000040058	ORC5	1	64	-0.137	-0.002	Gain:1
ENSBTAG00000005719	GJB4	1	15	-0.032	-0.002	Lost:1
ENSBTAG00000027316	UBE2V1	2	138	-0.147	-0.002	Gain:1 Lost:1
ENSBTAG00000002404	TMX2	1	71	-0.151	-0.002	Lost:1
ENSBTAG00000015019	OBFC1	1	53	-0.112	-0.002	Increase:1
ENSBTAG00000003443	USP46	2	205	-0.216	-0.002	Increase:1 Gain:1
ENSBTAG00000005133	ANKS6	1	43	-0.09	-0.002	Gain:1
ENSBTAG00000032680	TMEM63B	1	56	-0.116	-0.002	Lost:1
ENSBTAG00000040607	SLA2	2	169	-0.175	-0.002	Decrease:1 Gain:1
ENSBTAG00000014805	ENOPH1	1	71	-0.147	-0.002	Gain:1
ENSBTAG00000030434	FUCA1	1	74	-0.153	-0.002	Gain:1
ENSBTAG00000018806	PSRC1	2	61	-0.063	-0.002	Lost:2
ENSBTAG00000013368	ANKRD22	1	71	-0.146	-0.002	Lost:1
ENSBTAG00000002847	D2HGDH	1	64	-0.131	-0.002	Lost:1
ENSBTAG00000015085	CLIC3	2	138	-0.14	-0.002	Increase:2
ENSBTAG00000007258	GAD1	1	81	-0.164	-0.002	Gain:1
ENSBTAG00000001042	MXD1	1	125	-0.253	-0.002	Gain:1
ENSBTAG00000047434	TSNAX	1	90	-0.182	-0.002	Decrease:1
ENSBTAG00000018924	QRICH1	1	48	-0.097	-0.002	Increase:1
ENSBTAG00000002699	KIT	1	145	-0.293	-0.002	Gain:1
ENSBTAG00000008553	B4GALNT3	1	66	-0.133	-0.002	Gain:1
ENSBTAG00000024803	ENDOD1	2	208	-0.209	-0.002	Gain:2
ENSBTAG00000001036	HIBADH	1	50	-0.1	-0.002	Gain:1

Supplementary table 2 – SSr-ranked genes with 3’UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000020517	MED9	1	75	-0.15	-0.002	Gain:1
ENSBTAG00000013007	FAM210B	1	178	-0.355	-0.002	Gain:1
ENSBTAG00000003212	NNAT	1	102	-0.202	-0.002	Lost:1
ENSBTAG00000024539	SPSB1	1	150	-0.297	-0.002	Gain:1
ENSBTAG00000007623	GLTPD1	1	98	-0.193	-0.002	Lost:1
ENSBTAG00000004344	ACSL1	1	125	-0.245	-0.002	Gain:1
ENSBTAG00000009886	KDELR3	1	63	-0.123	-0.002	Gain:1
ENSBTAG00000004870	GALNT2	1	58	-0.113	-0.002	Gain:1
ENSBTAG00000020154	DEDD	1	36	-0.07	-0.002	Lost:1
ENSBTAG00000013400	VIP	1	84	-0.163	-0.002	Lost:1
ENSBTAG00000046797	NRAS	2	202	-0.195	-0.002	Increase:1 Gain:1
ENSBTAG00000018421	WWP2	2	161	-0.154	-0.002	Gain:1 Lost:1
ENSBTAG00000010832	JAGN1	1	44	-0.084	-0.002	Gain:1
ENSBTAG00000002090	CPSF4	1	71	-0.135	-0.002	Lost:1
ENSBTAG00000018513	FHL1	1	67	-0.125	-0.002	Gain:1
ENSBTAG00000039591	TMEM167A	1	71	-0.132	-0.002	Lost:1
ENSBTAG00000013173	Sep-03	2	127	-0.118	-0.002	Gain:2
ENSBTAG00000034963	MKS1	1	35	-0.065	-0.002	Gain:1
ENSBTAG00000000392	ASCC1	1	41	-0.076	-0.002	Lost:1
ENSBTAG00000001933	PPP2R4	1	132	-0.244	-0.002	Decrease:1
ENSBTAG00000013901	PTDSS1	1	77	-0.142	-0.002	Lost:1
ENSBTAG00000000835	BCAS1	1	69	-0.127	-0.002	Decrease:1
ENSBTAG00000001189	AP1B1	1	91	-0.167	-0.002	Increase:1
ENSBTAG00000024663	LAD1	1	35	-0.064	-0.002	Gain:1
ENSBTAG00000006353	TXNL4B	2	101	-0.091	-0.002	Lost:2
ENSBTAG00000000541	NKX2-1	1	98	-0.175	-0.002	Decrease:1
ENSBTAG00000005493	TBC1D14	2	165	-0.146	-0.002	Gain:2

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000007357	CHSY1	1	111	-0.196	-0.002	Lost:1
ENSBTAG00000004036	GJC1	1	63	-0.111	-0.002	Lost:1
ENSBTAG00000006801	TMEM106A	1	101	-0.176	-0.002	Increase:1
ENSBTAG00000039172	RABGAP1	2	147	-0.128	-0.002	Increase:2
ENSBTAG00000021967	TMEM168	4	138	-0.06	-0.002	Decrease:4
ENSBTAG00000017922	DOLPP1	2	128	-0.111	-0.002	Increase:1 Lost:1
ENSBTAG00000010717	SSBP3	1	71	-0.123	-0.002	Gain:1
ENSBTAG00000014831	PPP1R3C	2	104	-0.09	-0.002	Increase:2
ENSBTAG00000014526	MOB3A	1	115	-0.199	-0.002	Gain:1
ENSBTAG00000008688	HEYL	1	172	-0.296	-0.002	Gain:1
ENSBTAG00000018888	DPH2	1	80	-0.134	-0.002	Lost:1
ENSBTAG00000002306	UTP11L	2	104	-0.087	-0.002	Gain:2
ENSBTAG00000021497	CDH23	1	61	-0.102	-0.002	Increase:1
ENSBTAG00000019611	MAGI3	1	136	-0.226	-0.002	Increase:1
ENSBTAG00000026624	LYRM5	1	68	-0.113	-0.002	Lost:1
ENSBTAG00000014503	IQCE	1	53	-0.088	-0.002	Gain:1
ENSBTAG00000011802	COL6A1	1	82	-0.136	-0.002	Lost:1
ENSBTAG00000014791	CTH	1	17	-0.028	-0.002	Lost:1
ENSBTAG00000009307	RER1	1	53	-0.087	-0.002	Lost:1
ENSBTAG00000016170	KCNJ11	1	88	-0.144	-0.002	Gain:1
ENSBTAG00000004801	PDXDC1	4	152	-0.062	-0.002	Increase:1 Decrease:2
ENSBTAG00000019347	PLXDC1	1	84	-0.137	-0.002	Lost:1
ENSBTAG00000006187	MFAP4	1	70	-0.114	-0.002	Gain:1
ENSBTAG00000014080	METTL14	1	104	-0.168	-0.002	Lost:1
ENSBTAG00000000163	DDIT4	1	84	-0.135	-0.002	Gain:1
ENSBTAG00000018254	CDKN1B	1	89	-0.143	-0.002	Gain:1
ENSBTAG00000001817	TMEM161A	1	104	-0.167	-0.002	Decrease:1

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000002105		2	223	-0.179	-0.002	Gain:2
ENSBTAG00000010551	ATP1A2	1	171	-0.274	-0.002	Gain:1
ENSBTAG00000006066	CDS2	2	190	-0.152	-0.002	Increase:1 Gain:1
ENSBTAG00000013038	UBE2L3	1	75	-0.119	-0.002	Increase:1
ENSBTAG00000018690	RPAP3	1	97	-0.153	-0.002	Lost:1
ENSBTAG00000006040	UHRF1BP1 L	1	79	-0.124	-0.002	Lost:1
ENSBTAG00000004499	RGS3	1	85	-0.133	-0.002	Gain:1
ENSBTAG00000021313	RUNDC3B	1	79	-0.123	-0.002	Lost:1
ENSBTAG00000007567	TMX3	1	133	-0.207	-0.002	Gain:1
ENSBTAG00000018202	CYBASC3	1	90	-0.14	-0.002	Lost:1
ENSBTAG00000020458	STX6	1	132	-0.205	-0.002	Gain:1
ENSBTAG00000017386	C3H1orf50	1	20	-0.031	-0.002	Lost:1
ENSBTAG00000013764	OPTC	1	53	-0.082	-0.002	Decrease:1
ENSBTAG00000014179	SLC12A5	2	176	-0.136	-0.002	Increase:1 Decrease:1
ENSBTAG00000000243	HEBP2	1	82	-0.125	-0.002	Lost:1
ENSBTAG00000003981	RRP1	1	20	-0.03	-0.002	Gain:1
ENSBTAG00000020698	MTHFR	1	36	-0.054	-0.002	Gain:1
ENSBTAG00000001656	C28H10orf 57	1	70	-0.104	-0.001	Lost:1
ENSBTAG00000020973	RFT1	1	60	-0.089	-0.001	Decrease:1
ENSBTAG00000000831	CTNS	2	183	-0.135	-0.001	Increase:2
ENSBTAG00000012501	FTO	1	140	-0.206	-0.001	Lost:1
ENSBTAG00000010948	CLIC2	1	113	-0.166	-0.001	Decrease:1
ENSBTAG00000006296	VMA21	1	161	-0.236	-0.001	Increase:1
ENSBTAG00000020645	GNAI2	2	129	-0.094	-0.001	Gain:2
ENSBTAG00000012656	OVOL1	1	138	-0.201	-0.001	Gain:1
ENSBTAG00000016891	TCP11	1	55	-0.08	-0.001	Gain:1
ENSBTAG00000002891	HTR5A	1	123	-0.178	-0.001	Gain:1

Supplementary table 2 – SSr-ranked genes with 3’UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000021887	DPYS	1	86	-0.124	-0.001	Gain:1
ENSBTAG00000003418	MSN	1	140	-0.2	-0.001	Decrease:1
ENSBTAG00000001228	CEND1	1	100	-0.142	-0.001	Gain:1
ENSBTAG00000006852	ACYP2	1	24	-0.034	-0.001	Lost:1
ENSBTAG00000032200	DNAJC24	1	121	-0.171	-0.001	Increase:1
ENSBTAG00000014411	C5H12orf23	2	173	-0.122	-0.001	Increase:2
ENSBTAG00000014057	SLC35A1	1	81	-0.114	-0.001	Gain:1
ENSBTAG00000015534	LYPLAL1	2	126	-0.088	-0.001	Increase:1 Gain:1
ENSBTAG00000014958	PRKAR2B	1	48	-0.067	-0.001	Gain:1
ENSBTAG00000038189	GPR52	1	119	-0.166	-0.001	Lost:1
ENSBTAG00000020184	AQP8	1	82	-0.114	-0.001	Lost:1
ENSBTAG00000030286	GABRA1	1	57	-0.079	-0.001	Lost:1
ENSBTAG00000016910	METTL21B	1	127	-0.176	-0.001	Decrease:1
ENSBTAG00000002095	MEN1	1	84	-0.116	-0.001	Gain:1
ENSBTAG00000007599	IKBKB	1	109	-0.15	-0.001	Gain:1
ENSBTAG00000010850	SERTAD4	1	112	-0.154	-0.001	Lost:1
ENSBTAG00000014546	CLEC7A	1	59	-0.081	-0.001	Lost:1
ENSBTAG00000016217	RBM43	1	118	-0.162	-0.001	Lost:1
ENSBTAG00000015945	TMEM81	1	101	-0.138	-0.001	Gain:1
ENSBTAG00000023989	MSANTD4	1	132	-0.18	-0.001	Lost:1
ENSBTAG00000005100	TMEM30A	1	50	-0.068	-0.001	Increase:1
ENSBTAG00000002192	C14H8orf46	1	169	-0.228	-0.001	Lost:1
ENSBTAG00000019967	RASA3	1	98	-0.132	-0.001	Gain:1
ENSBTAG00000020969	DCAF6	1	55	-0.074	-0.001	Lost:1
ENSBTAG00000015686	TERF2IP	1	67	-0.09	-0.001	Lost:1
ENSBTAG00000007315	LARS2	2	189	-0.125	-0.001	Increase:2
ENSBTAG00000034978	FAM168B	3	227	-0.1	-0.001	Gain:3

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000010626	SH3GLB2	1	58	-0.076	-0.001	Gain:1
ENSBTAG00000016354	IER2	2	75	-0.049	-0.001	Gain:2
ENSBTAG00000033298	C19H17orf 108	1	174	-0.227	-0.001	Lost:1
ENSBTAG00000009297	PANX2	1	83	-0.108	-0.001	Gain:1
ENSBTAG00000040422	UTP23	1	125	-0.162	-0.001	Lost:1
ENSBTAG00000007480	CIRBP	1	148	-0.189	-0.001	Gain:1
ENSBTAG00000021066	CAPN11	1	47	-0.06	-0.001	Lost:1
ENSBTAG00000006392	TTC7B	1	63	-0.079	-0.001	Gain:1
ENSBTAG00000005464	ADCY6	1	175	-0.218	-0.001	Increase:1
ENSBTAG00000016879	KIAA1147	1	38	-0.047	-0.001	Lost:1
ENSBTAG00000038286	C14H8orf2 2	1	132	-0.163	-0.001	Lost:1
ENSBTAG00000025212	HARS2	1	85	-0.104	-0.001	Lost:1
ENSBTAG00000001407	AP3S2	2	154	-0.094	-0.001	Gain:2
ENSBTAG00000025612	URM1	1	93	-0.113	-0.001	Lost:1
ENSBTAG00000019838	SHC1	1	129	-0.156	-0.001	Increase:1
ENSBTAG00000033423	EFNA3	1	71	-0.085	-0.001	Decrease:1
ENSBTAG00000001712	CMTM7	1	52	-0.062	-0.001	Gain:1
ENSBTAG00000008424	ABR	2	195	-0.114	-0.001	Gain:1 Lost:1
ENSBTAG00000046512	XIRP1	1	65	-0.076	-0.001	Lost:1
ENSBTAG00000014576	GUCY1A3	1	83	-0.097	-0.001	Gain:1
ENSBTAG00000014326	CDCA8	1	119	-0.139	-0.001	Lost:1
ENSBTAG00000007331	PLOD2	1	97	-0.113	-0.001	Gain:1
ENSBTAG00000009357	IL34	1	31	-0.036	-0.001	Gain:1
ENSBTAG00000002041	SASH3	1	103	-0.119	-0.001	Gain:1
ENSBTAG00000033902	LOC78216 2	1	48	-0.055	-0.001	Lost:1
ENSBTAG00000019639	SNX16	2	160	-0.091	-0.001	Gain:2
ENSBTAG00000000879	C14H8orf3 3	1	51	-0.058	-0.001	Lost:1

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000006235	INTS3	1	117	-0.133	-0.001	Lost:1
ENSBTAG00000003215	KIF3B	1	231	-0.262	-0.001	Gain:1
ENSBTAG00000006410	DCTN5	1	105	-0.119	-0.001	Gain:1
ENSBTAG00000003961	SNX20	1	98	-0.111	-0.001	Gain:1
ENSBTAG00000018227	SLC4A7	1	199	-0.224	-0.001	Lost:1
ENSBTAG00000022721	SLC25A38	1	112	-0.126	-0.001	Lost:1
ENSBTAG00000005503	PRMT2	1	95	-0.106	-0.001	Increase:1
ENSBTAG00000019465	ITPKC	2	106	-0.059	-0.001	Decrease:1 Lost:1
ENSBTAG00000016961	RAP2B	1	170	-0.188	-0.001	Increase:1
ENSBTAG00000012073	VOPP1	1	102	-0.112	-0.001	Lost:1
ENSBTAG00000002816	SARM1	2	197	-0.108	-0.001	Increase:2
ENSBTAG00000022120	FGB	1	98	-0.107	-0.001	Gain:1
ENSBTAG00000021416	FAM213A	1	44	-0.048	-0.001	Decrease:1
ENSBTAG00000020551	ABCD1	1	67	-0.073	-0.001	Gain:1
ENSBTAG00000014325	C3H1orf109	1	205	-0.222	-0.001	Gain:1
ENSBTAG00000011204	NINJ1	1	13	-0.014	-0.001	Lost:1
ENSBTAG00000002834	CCDC69	1	182	-0.194	-0.001	Decrease:1
ENSBTAG00000019779	RAB39B	1	90	-0.095	-0.001	Lost:1
ENSBTAG00000019794	SYPL1	1	115	-0.121	-0.001	Increase:1
ENSBTAG00000012450	RAPGEF2	1	181	-0.19	-0.001	Increase:1
ENSBTAG00000000289	ASB8	1	105	-0.11	-0.001	Gain:1
ENSBTAG00000015371	GABPB2	1	65	-0.068	-0.001	Increase:1
ENSBTAG00000001523	YES1	2	199	-0.104	-0.001	Decrease:1 Gain:1
ENSBTAG00000022588	C14H8orf34	1	67	-0.07	-0.001	Decrease:1
ENSBTAG00000021918	EZH1	2	232	-0.12	-0.001	Increase:1 Lost:1
ENSBTAG00000004824	REEP1	1	153	-0.158	-0.001	Decrease:1
ENSBTAG00000001868	PCYT2	1	92	-0.095	-0.001	Increase:1

Supplementary table 2 – SSr-ranked genes with 3’UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000014465	SERPINE1	1	127	-0.131	-0.001	Gain:1
ENSBTAG00000018223	CHI3L1	1	47	-0.048	-0.001	Lost:1
ENSBTAG00000030369	IFFO1	1	96	-0.098	-0.001	Lost:1
ENSBTAG00000018761	SLC35F6	1	202	-0.206	-0.001	Increase:1
ENSBTAG00000004922	AGPAT5	1	164	-0.167	-0.001	Gain:1
ENSBTAG00000005622	LITAF	1	111	-0.113	-0.001	Lost:1
ENSBTAG00000004337	PDE1B	1	110	-0.111	-0.001	Lost:1
ENSBTAG00000032640	FOPNL	1	153	-0.154	-0.001	Decrease:1
ENSBTAG00000020030	FITM2	1	169	-0.17	-0.001	Decrease:1
ENSBTAG00000017825	SEC13	1	24	-0.024	-0.001	Gain:1
ENSBTAG00000003936	PNKD	2	182	-0.09	-0.001	Gain:1 Lost:1
ENSBTAG00000019218	ATP6V0A1	1	168	-0.165	-0.001	Lost:1
ENSBTAG00000022022	C17H22orf 13	1	163	-0.16	-0.001	Increase:1
ENSBTAG00000018119	AOAH	1	99	-0.097	-0.001	Gain:1
ENSBTAG00000007893	SCPEP1	1	42	-0.041	-0.001	Gain:1
ENSBTAG00000016398	DNAJC22	1	80	-0.078	-0.001	Lost:1
ENSBTAG00000015581	COL9A3	1	64	-0.062	-0.001	Gain:1
ENSBTAG00000011482	SLC43A2	1	129	-0.124	-0.001	Lost:1
ENSBTAG00000047760	DUS1L	1	139	-0.133	-0.001	Lost:1
ENSBTAG00000021902	ALDH5A1	1	131	-0.125	-0.001	Increase:1
ENSBTAG00000007730	ZFY	1	128	-0.121	-0.001	Increase:1
ENSBTAG00000013366	NRIP3	2	155	-0.073	-0.001	Increase:1 Gain:1
ENSBTAG00000008076	SLC35B2	1	84	-0.079	-0.001	Gain:1
ENSBTAG00000013985	FKRP	1	197	-0.185	-0.001	Gain:1
ENSBTAG00000021364	TNK2	1	143	-0.134	-0.001	Gain:1
ENSBTAG00000004672	RDX	2	149	-0.068	-0.001	Gain:2
ENSBTAG00000026111	LBH	1	130	-0.118	-0.001	Lost:1

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000011692	C25H16orf45	2	219	-0.098	-0.001	Gain:1 Lost:1
ENSBTAG00000011374	S1PR3	2	195	-0.086	-0.001	Increase:1 Decrease:1
ENSBTAG00000010721	MCM3	1	59	-0.052	-0.001	Gain:1
ENSBTAG00000013525	C23H6orf25	1	129	-0.113	-0.001	Gain:1
ENSBTAG00000000279	RAB26	1	93	-0.081	-0.001	Lost:1
ENSBTAG00000005063	THEM6	1	124	-0.108	-0.001	Increase:1
ENSBTAG00000003381	PAPD7	1	123	-0.106	-0.001	Gain:1
ENSBTAG00000020829	PTPRK	1	133	-0.114	-0.001	Lost:1
ENSBTAG00000005299	EDNRB	1	47	-0.04	-0.001	Increase:1
ENSBTAG00000038635	LOC100124497	2	131	-0.055	-0.001	Increase:1 Gain:1
ENSBTAG00000033225	CNTN4	1	42	-0.035	-0.001	Lost:1
ENSBTAG00000010023	FAM107B	1	91	-0.075	-0.001	Gain:1
ENSBTAG00000019184	TRAPPC2L	1	135	-0.109	-0.001	Increase:1
ENSBTAG00000015017	GAL3ST4	1	56	-0.045	-0.001	Lost:1
ENSBTAG00000017459	DUSP18	1	187	-0.149	-0.001	Lost:1
ENSBTAG00000021276	TFF3	1	44	-0.035	-0.001	Gain:1
ENSBTAG00000014469	NBEAL1	1	102	-0.081	-0.001	Lost:1
ENSBTAG00000008504	SYNGR3	1	125	-0.099	-0.001	Decrease:1
ENSBTAG00000031707	FRMD6	1	196	-0.154	-0.001	Gain:1
ENSBTAG00000021781	FAM54B	1	95	-0.074	-0.001	Gain:1
ENSBTAG00000013974	TMEM215	1	230	-0.179	-0.001	Increase:1
ENSBTAG00000000905	RAB6B	2	175	-0.068	-0.001	Lost:2
ENSBTAG00000004588	KCNN4	1	58	-0.045	-0.001	Gain:1
ENSBTAG00000002179	C10H15orf41	1	93	-0.072	-0.001	Lost:1
ENSBTAG00000015155	PTPLAD1	1	142	-0.109	-0.001	Decrease:1
ENSBTAG00000021435	MAFF	1	119	-0.09	-0.001	Lost:1
ENSBTAG00000003304	HOXC4	1	86	-0.065	-0.001	Lost:1

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000021210	HES2	1	98	-0.074	-0.001	Gain:1
ENSBTAG00000012801	UPP2	1	64	-0.048	-0.001	Gain:1
ENSBTAG00000002487	UBE3A	1	128	-0.094	-0.001	Lost:1
ENSBTAG00000012432	FDFT1	1	75	-0.055	-0.001	Lost:1
ENSBTAG00000039161	ALDH3A2	1	163	-0.119	-0.001	Lost:1
ENSBTAG00000012121	NOXA1	1	99	-0.072	-0.001	Lost:1
ENSBTAG00000026369	ENC1	1	152	-0.11	-0.001	Gain:1
ENSBTAG00000019125	SLC1A1	1	135	-0.097	-0.001	Lost:1
ENSBTAG00000013414	BLVRA	1	120	-0.086	-0.001	Gain:1
ENSBTAG00000014103	SH3GL2	1	134	-0.095	-0.001	Lost:1
ENSBTAG00000020934		2	34	-0.012	-0.001	Lost:2
ENSBTAG00000013362	DNM2	1	63	-0.044	-0.001	Lost:1
ENSBTAG00000009115	SPSB4	1	135	-0.094	-0.001	Increase:1
ENSBTAG00000001744	BET1L	2	186	-0.063	-0.001	Decrease:1 Gain:1
ENSBTAG00000011770	TJP2	1	62	-0.042	-0.001	Gain:1
ENSBTAG00000015354	ZDHHC9	1	142	-0.096	-0.001	Lost:1
ENSBTAG00000002703	ATP6V1A	1	111	-0.073	-0.001	Decrease:1
ENSBTAG00000012931	PLN	1	158	-0.102	-0.001	Decrease:1
ENSBTAG00000021430	UPK3B	1	109	-0.07	-0.001	Gain:1
ENSBTAG00000011798	STK38L	1	166	-0.106	-0.001	Decrease:1
ENSBTAG00000021102	GALM	1	105	-0.067	-0.001	Gain:1
ENSBTAG00000008952	RAP1GAP	1	80	-0.051	-0.001	Increase:1
ENSBTAG00000004131	RAP2C	1	195	-0.124	-0.001	Lost:1
ENSBTAG00000047780	CCDC127	1	111	-0.07	-0.001	Lost:1
ENSBTAG00000011937	C17H12orf 52	1	46	-0.029	-0.001	Lost:1
ENSBTAG00000008527	SRSF6	1	154	-0.097	-0.001	Lost:1
ENSBTAG00000001254	ANKRD46	1	135	-0.084	-0.001	Increase:1

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000004038	ABAT	1	243	-0.15	-0.001	Increase:1
ENSBTAG00000017517	ZNF236	1	47	-0.029	-0.001	Lost:1
ENSBTAG00000016377	IPP	1	121	-0.074	-0.001	Increase:1
ENSBTAG00000005158	NAPG	1	158	-0.095	-0.001	Decrease:1
ENSBTAG00000015965	ZC3H8	1	44	-0.026	-0.001	Gain:1
ENSBTAG00000031473	ORC2	1	127	-0.075	-0.001	Decrease:1
ENSBTAG00000017349	PCDHGA8	1	148	-0.087	-0.001	Gain:1
ENSBTAG00000046073	C16H1orf70	1	29	-0.017	-0.001	Lost:1
ENSBTAG00000010506	MEAF6	1	117	-0.068	-0.001	Gain:1
ENSBTAG00000017524	CBLN4	1	75	-0.042	-0.001	Increase:1
ENSBTAG00000018650	HEPACAM	1	84	-0.047	-0.001	Lost:1
ENSBTAG00000015249	B4GALT1	1	199	-0.111	-0.001	Lost:1
ENSBTAG00000022775	C21H14orf180	1	151	-0.084	-0.001	Increase:1
ENSBTAG00000003894	NDRG4	1	153	-0.084	-0.001	Decrease:1
ENSBTAG00000021318	SCAMP5	2	204	-0.056	-0.001	Lost:2
ENSBTAG00000048286	E2F6	1	164	-0.09	-0.001	Gain:1
ENSBTAG00000021543	MDFIC	1	185	-0.1	-0.001	Gain:1
ENSBTAG00000003353	SLC6A2	1	93	-0.05	-0.001	Decrease:1
ENSBTAG00000015879	TULP3	1	162	-0.087	-0.001	Gain:1
ENSBTAG00000002033	UBXN2A	1	112	-0.058	-0.001	Increase:1
ENSBTAG00000019950	GRPEL2	1	136	-0.069	-0.001	Decrease:1
ENSBTAG00000004438	XPNPEP1	1	39	-0.018	0.000	Gain:1
ENSBTAG00000017740	TUBAL3	1	128	-0.058	0.000	Lost:1
ENSBTAG00000017419	ZZZ3	1	90	-0.04	0.000	Gain:1
ENSBTAG00000006208	ADCY7	1	183	-0.081	0.000	Decrease:1
ENSBTAG00000012719	UBTD1	1	66	-0.029	0.000	Lost:1
ENSBTAG00000003639	ELMO2	1	128	-0.056	0.000	Gain:1

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000010810	UCK1	1	83	-0.036	0.000	Lost:1
ENSBTAG00000047314	PPIE	1	157	-0.068	0.000	Gain:1
ENSBTAG00000012904	EDEM1	1	139	-0.059	0.000	Lost:1
ENSBTAG00000014936	MCART1	1	144	-0.061	0.000	Gain:1
ENSBTAG00000026326	SPN	1	149	-0.063	0.000	Gain:1
ENSBTAG00000005370	TMTC1	2	67	-0.014	0.000	Gain:2
ENSBTAG00000018322	SEC24A	1	182	-0.076	0.000	Gain:1
ENSBTAG00000012972	CYP2U1	1	187	-0.078	0.000	Increase:1
ENSBTAG00000000295	CLHC1	1	131	-0.051	0.000	Gain:1
ENSBTAG00000002430	COL17A1	1	75	-0.029	0.000	Gain:1
ENSBTAG00000002701	UGT3A2	1	124	-0.047	0.000	Lost:1
ENSBTAG00000020914	CPNE8	1	142	-0.053	0.000	Increase:1
ENSBTAG00000011689	LENG8	1	164	-0.061	0.000	Decrease:1
ENSBTAG00000022681	EOGT	1	183	-0.068	0.000	Lost:1
ENSBTAG00000005793	PEA15	1	170	-0.062	0.000	Lost:1
ENSBTAG00000003836	ADAM19	1	258	-0.092	0.000	Lost:1
ENSBTAG00000001181	RPS6KC1	1	101	-0.036	0.000	Lost:1
ENSBTAG00000005115	SLC31A2	1	79	-0.028	0.000	Lost:1
ENSBTAG00000018936	LSS	1	154	-0.054	0.000	Lost:1
ENSBTAG00000013421	PRMT3	1	66	-0.023	0.000	Decrease:1
ENSBTAG00000007943	AZIN1	1	153	-0.053	0.000	Lost:1
ENSBTAG00000001352	SDCCAG3	1	78	-0.027	0.000	Increase:1
ENSBTAG00000010649	MEF2A	1	220	-0.076	0.000	Lost:1
ENSBTAG00000038462	TMEM182	1	102	-0.035	0.000	Decrease:1
ENSBTAG00000008978	USP22	2	143	-0.024	0.000	Increase:2
ENSBTAG00000012262	FBXO10	1	171	-0.057	0.000	Lost:1
ENSBTAG00000015200	L2HGDH	1	130	-0.043	0.000	Increase:1

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000033535	FAM26D	1	145	-0.046	0.000	Decrease:1
ENSBTAG00000035286	CMC1	1	186	-0.058	0.000	Decrease:1
ENSBTAG00000005384	COPZ1	1	110	-0.034	0.000	Gain:1
ENSBTAG00000002107	FZD1	1	115	-0.035	0.000	Decrease:1
ENSBTAG00000007170	SLC38A7	1	171	-0.052	0.000	Increase:1
ENSBTAG00000003185	ASAP1	1	170	-0.049	0.000	Lost:1
ENSBTAG00000002350	PIK3R2	1	77	-0.022	0.000	Gain:1
ENSBTAG00000022890	MBP	1	78	-0.022	0.000	Lost:1
ENSBTAG00000007958	TNS4	2	213	-0.03	0.000	Gain:1 Lost:1
ENSBTAG00000021969	KLHL29	1	157	-0.043	0.000	Gain:1
ENSBTAG00000009772	LIX1	1	188	-0.051	0.000	Lost:1
ENSBTAG00000039163	HIST1H1D	1	174	-0.043	0.000	Decrease:1
ENSBTAG00000046160	C23H6orf228	1	175	-0.043	0.000	Gain:1
ENSBTAG00000014806	ATP2A3	2	116	-0.014	0.000	Increase:2
ENSBTAG00000011953	PRKACB	1	208	-0.045	0.000	Increase:1
ENSBTAG00000017818	MOG	1	112	-0.023	0.000	Lost:1
ENSBTAG00000004715	AKIRIN1	1	212	-0.042	0.000	Gain:1
ENSBTAG00000016511	POLDIP3	1	145	-0.028	0.000	Gain:1
ENSBTAG00000016223	SCRN1	1	246	-0.047	0.000	Decrease:1
ENSBTAG00000009328	NWD1	1	168	-0.03	0.000	Increase:1
ENSBTAG00000007129	MRVI1	1	216	-0.037	0.000	Lost:1
ENSBTAG00000017592	AGPAT9	1	89	-0.014	0.000	Lost:1
ENSBTAG00000014069	PDK4	1	168	-0.026	0.000	Lost:1
ENSBTAG00000019645	TFDP1	1	59	-0.009	0.000	Gain:1
ENSBTAG00000002534	EEF1E1	1	106	-0.016	0.000	Decrease:1
ENSBTAG00000014804	HNRPDL	1	88	-0.013	0.000	Increase:1
ENSBTAG00000005246	DIP2B	1	201	-0.027	0.000	Lost:1

Supplementary table 2 – SSr-ranked genes with 3'UTR polymorphic miRNA biding sites between B. taurus and B. primigenius

Gene ID (Ensembl)	Gene name	PS	CS	PS score	SSR	Event
ENSBTAG00000017776	CHD2	1	228	-0.028	0.000	Gain:1
ENSBTAG00000005290	CLDN2	1	165	-0.02	0.000	Lost:1
ENSBTAG00000012608	GDAP1	1	179	-0.021	0.000	Decrease:1
ENSBTAG00000002566	PGPEP1	1	192	-0.021	0.000	Increase:1
ENSBTAG00000021120	SMYD1	1	214	-0.023	0.000	Increase:1
ENSBTAG00000002220	SPTLC1	1	91	-0.009	0.000	Lost:1
ENSBTAG00000012919	MMP15	2	163	-0.008	0.000	Lost:2
ENSBTAG00000018239	DNAJC27	1	218	-0.019	0.000	Decrease:1
ENSBTAG00000020936	NOD2	1	152	-0.011	0.000	Lost:1
ENSBTAG00000003966	DUSP3	1	198	-0.01	0.000	Gain:1
ENSBTAG00000007352	KCNC4	1	123	-0.006	0.000	Gain:1
ENSBTAG00000002362	APOLD1	1	178	-0.008	0.000	Lost:1
ENSBTAG00000019495	TEAD3	1	123	-0.005	0.000	Lost:1
ENSBTAG00000006492	PI4K2B	1	165	-0.005	0.000	Decrease:1
ENSBTAG00000002472	CASP9	1	170	-0.005	0.000	Gain:1
ENSBTAG00000005034	CAPN5	1	241	-0.007	0.000	Decrease:1
ENSBTAG00000039231	C4H7orf41	1	232	-0.005	0.000	Increase:1

Chapter 3: Identification of cattle breeds polymorphisms in miRNA sequences discover candidates for association studies

Supplementary Table 3 – miRNA polymorphic seed region for TargteScan

breed-miRNA	seed region	breed tag
FL-miR-2467-5p	CCCCAAG	9913.6
FL-miR-2285m	AAAUGCA	9913.6
FL-miR-2285t	GAAUCUA	9913.6
FL-miR-1584-3p	UCUCUCC	9913.6
FL-miR-29e	AGCACCA	9913.6
FL-miR-2313-3p	CAGUUCU	9913.6
AN-miR-653	UGUUGAA	9913.3
AN-miR-2318	UGUAUGC	9913.3
AN-miR-29e	AGCACCA	9913.3
AN-miR-2883	UUCCUGU	9913.3
AN-miR-2284e	AGUUCAU	9913.3
AN-miR-1291	GGCCUUG	9913.3
AN-miR-2285m	AAAUGCA	9913.3
AN-miR-2369	GAGGUCG	9913.3
AN-miR-2489	AAUGACG	9913.3
AN-miR-2467-5p	CCCCAAG	9913.3
AN-miR-940	AGGCUGG	9913.3
AN-miR-2450c	AUGUCAG	9913.3
AN-miR-2446	AAAAUAU	9913.3
AN-miR-2425-3p	UCCUAGA	9913.3
HO-miR-653	UGUUGAA	9913.1
HO-miR-2318	UGUAUGC	9913.1
HO-miR-29d/miR-	AGCACCA	9913.1
HO-miR-2418	GGGAUGA	9913.1
HO-miR-2489	AAUGAUG	9913.1
HO-miR-2419-3p	AGGCGGG	9913.1
HO-miR-2284y	AAAGUUC	9913.1
HO-miR-2369	GAGGUCG	9913.1
HO-miR-2284e	AGUUCAU	9913.1
HO-miR-2467-5p	CCCCAAG	9913.1
HO-miR-2425-3p	UCCUAGA	9913.1
HO-miR-2450c	AUGUCAG	9913.1
HO-miR-2313-3p	CAGUUCU	9913.1
HO-miR-2285m	AAAUGCA	9913.1
RO-miR-1291	GGCCUUG	9913.5
RO-miR-29e	AGCACCA	9913.5
RO-miR-2285t	GAAUCUA	9913.5
RO-miR-2893	UGGAGGA	9913.5
RO-miR-2418	GGGAUGA	9913.5
RO-miR-2467-5p	CCCCAAG	9913.5
RO-miR-1584-3p	UCUCUCC	9913.5
RO-miR-2285m	AAAUGCA	9913.5
RO-miR-2425-3p	UCCUAGA	9913.5
RO-miR-2313-3p	CAGUUCU	9913.5
LI-miR-653	UGUUGAA	9913.4
LI-miR-2318	UGUAUGC	9913.4
LI-miR-29e	AGCACCA	9913.4
LI-miR-2434	UGUUGGG	9913.4
LI-miR-2419-3p	AGGCGGG	9913.4
LI-miR-2467-5p	CCCCAAG	9913.4
LI-miR-2418	GGGAUGA	9913.4
LI-miR-1291	GGCCUUG	9913.4
LI-miR-2285m	AAAUGCA	9913.4
LI-miR-2284e	AGUUCAU	9913.4
LI-miR-2391	AAAAAAA	9913.4
LI-miR-940	AGGCUGG	9913.4
LI-miR-2425-3p	UCCUAGA	9913.4

Supplementary Table 3 – miRNA polymorphic seed region for TargteScan

breed-miRNA	seed region	breed tag
LI-miR-2313-3p	CAGUUCU	9913.4
bta-miR-449b	GGCAGUG	9913
bta-miR-2419-5p	UCGCAUC	9913
bta-miR-2489	AAUGACA	9913
bta-miR-29e	AGCAUCA	9913
bta-miR-2450c	ACGUCAG	9913
bta-miR-940	AGGCUGG	9913
bta-miR-2391	AAAAAAA	9913
bta-miR-2313-3p	CAGUUCC	9913
bta-miR-2285t	GAAUCUG	9913
bta-miR-1291	GGCCCUG	9913
bta-miR-2425-3p	UCGUAGA	9913
bta-miR-2318	UGUAUGA	9913
bta-miR-29d	AGCACCA	9913
bta-miR-2893	UGGAGGA	9913
bta-miR-2418	GGGAUGA	9913
bta-miR-2285m	AAACGCA	9913
bta-miR-2369	UAGGUUG	9913
bta-miR-1584-3p	UCUCUCC	9913
bta-miR-2883	UUCCCGU	9913
bta-miR-653	UGUUGAA	9913
bta-miR-2285o	AACCCGA	9913
bta-miR-2467-5p	CCCCAAG	9913
bta-miR-2434	UGUUGGG	9913
bta-miR-2419-3p	AGGCGGG	9913
bta-miR-2284y	AAAGUUC	9913
bta-miR-2284e	AGUUCGU	9913
bta-miR-2446	AAAAUAU	9913
JE-miR-653	UGUUGAA	9913.2
JE-miR-2284y	AAAGUUC	9913.2
JE-miR-1291	GGCCUUG	9913.2
JE-miR-29e	AGCACCA	9913.2
JE-miR-2285t	GAAUCUA	9913.2
JE-miR-2284e	AGUUCAU	9913.2
JE-miR-2425-3p	UCCUAGA	9913.2
JE-miR-2418	GGGAUGA	9913.2
JE-miR-1584-3p	UCUCUCC	9913.2
JE-miR-2450c	AUGUCAG	9913.2
JE-miR-449b	GGCAGUU	9913.2
JE-miR-2285o	AACCCGA	9913.2
JE-miR-2391	AAAAAAA	9913.2
JE-miR-940	AGGCUGG	9913.2
JE-miR-2419-5p	UCACAUC	9913.2
JE-miR-2313-3p	CAGUUCU	9913.2
JE-miR-2285m	AAAUGCA	9913.2

Supplementary Table 4 – Polymorphic mature miRNA for TargetScan

breed-miRNA family	breed tag	breed miRNA name	mature sequence
FL-miR-2467-5p	9913.6	FL-miR-2467-5p	ACCCCAAGCCUGGCCGCUACCU
FL-miR-2285m	9913.6	FL-miR-2285m	AAAAUGCAAAUGAACUUUUUGG
FL-miR-2285t	9913.6	FL-miR-2285t	AGAAUCUAGAUGAACUUUUUGG
FL-miR-1584-3p	9913.6	FL-miR-1584-3p	CUCUCUCCGCAGACCUCAGCCA
FL-miR-29e	9913.6	FL-miR-29e	UAGCACCAUUUGAAAUCAGUGUUU
FL-miR-2313-3p	9913.6	FL-miR-2313-3p	CCAGUUCUACGCUGCAUGCC
AN-miR-653	9913.3	AN-miR-653	GUGUUGAAACAAUCUCCGUUG
AN-miR-2318	9913.3	AN-miR-2318	GUGUAUGCUGAAUUAUCUGACC
AN-miR-29e	9913.3	AN-miR-29e	UAGCACCAUUUGAAAUCAGUGUUU
AN-miR-2883	9913.3	AN-miR-2883	CUUCCUGUGUGUUGAGCC
AN-miR-2284e	9913.3	AN-miR-2284e	AAGUUCAUUCGGAUUUUUCC
AN-miR-1291	9913.3	AN-miR-1291	UGGCCUUGACUGAAGACCUGCAGU
AN-miR-2285m	9913.3	AN-miR-2285m	AAAAUGCAAAUGAACUUUUUGG
AN-miR-2369	9913.3	AN-miR-2369	GGAGGUCGUGAGUUUUUGUUU
AN-miR-2489	9913.3	AN-miR-2489	AAAUGACGGGGGACAUGAGUUU
AN-miR-2467-5p	9913.3	AN-miR-2467-5p	ACCCCAAGCCUGGCCGCUACCU
AN-miR-940	9913.3	AN-miR-940	AAGGCUGGGCCCCCGCUCUGC
AN-miR-2450c	9913.3	AN-miR-2450c	CAUGUCAGUAGAGGCGCGUGUG
AN-miR-2446	9913.3	AN-miR-2446	UAAAAUAUAUUUGAAAUCAGGCC
AN-miR-2425-3p	9913.3	AN-miR-2425-3p	UUCCUAGACCCUGCCCUCCU
HO-miR-653	9913.1	HO-miR-653	GUGUUGAAACAAUCUCCGUUG
HO-miR-2318	9913.1	HO-miR-2318	GUGUAUGCUGAAUUAUCUGACC
HO-miR-29d/miR-29e	9913.1	HO-miR-29d	UAGCACCAUUUGAAAUCGGUUA
HO-miR-29d/miR-29e	9913.1	HO-miR-29e	UAGCACCAUUUGAAAUCAGUGUUU
HO-miR-2418	9913.1	HO-miR-2418	UGGGAUGAGUGUGGCGUGGUAG
HO-miR-2489	9913.1	HO-miR-2489	AAAUGAUGGGGGACAUGAGUUU
HO-miR-2419-3p	9913.1	HO-miR-2419-3p	CAGGCGGGUGCUGAUACGAUCA
HO-miR-2284y	9913.1	HO-miR-2284y	AAAAGUUCGUUUGGGUUUUUC
HO-miR-2369	9913.1	HO-miR-2369	GGAGGUCGUGAGUUUUUGUUU
HO-miR-2284e	9913.1	HO-miR-2284e	AAGUUCAUUCGGAUUUUUCC
HO-miR-2467-5p	9913.1	HO-miR-2467-5p	ACCCCAAGCCUGGCCGCUACCU
HO-miR-2425-3p	9913.1	HO-miR-2425-3p	UUCCUAGACCCUGCCCUCCU
HO-miR-2450c	9913.1	HO-miR-2450c	CAUGUCAGUAGAGGCGCGUGUG
HO-miR-2313-3p	9913.1	HO-miR-2313-3p	CCAGUUCUACGCUGCAUGCC
HO-miR-2285m	9913.1	HO-miR-2285m	AAAAUGCAAAUGAACUUUUUGG
RO-miR-1291	9913.5	RO-miR-1291	UGGCCUUGACUGAAGACCUGCAGU
RO-miR-29e	9913.5	RO-miR-29e	UAGCACCAUUUGAAAUCAGUGUUU
RO-miR-2285t	9913.5	RO-miR-2285t	AGAAUCUAGAUGAACUUUUUGG
RO-miR-2893	9913.5	RO-miR-2893	AUGGAGGAGAAUGCCCGGGG
RO-miR-2418	9913.5	RO-miR-2418	UGGGAUGAGUGUGGCGUGGUAG
RO-miR-2467-5p	9913.5	RO-miR-2467-5p	ACCCCAAGCCUGGCCGCUACCU
RO-miR-1584-3p	9913.5	RO-miR-1584-3p	CUCUCUCCGCAGACCUCAGCCA
RO-miR-2285m	9913.5	RO-miR-2285m	AAAAUGCAAAUGAACUUUUUGG
RO-miR-2425-3p	9913.5	RO-miR-2425-3p	UUCCUAGACCCUGCCCUCCU
RO-miR-2313-3p	9913.5	RO-miR-2313-3p	CCAGUUCUACGCUGCAUGCC
LI-miR-653	9913.4	LI-miR-653	GUGUUGAAACAAUCUCCGUUG
LI-miR-2318	9913.4	LI-miR-2318	GUGUAUGCUGAAUUAUCUGACC
LI-miR-29e	9913.4	LI-miR-29e	UAGCACCAUUUGAAAUCAGUGUUU
LI-miR-2434	9913.4	LI-miR-2434	UUGUUGGGUUUUUUUUGUAU
LI-miR-2419-3p	9913.4	LI-miR-2419-3p	CAGGCGGGUGCUGAUACGAUCA

breed-miRNA family	breed tag	breed miRNA name	mature sequence
LI-miR-2467-5p	9913.4	LI-miR-2467-5p	ACCCCAAGCCUGGCCGCUACCU
LI-miR-2418	9913.4	LI-miR-2418	UGGGAUGAGUGUGGCGUGGUAG
LI-miR-1291	9913.4	LI-miR-1291	UGGCCUUGACUGAAGACCUGCAGU
LI-miR-2285m	9913.4	LI-miR-2285m	AAAAUGCAAAUGAACUUUUUGG
LI-miR-2284e	9913.4	LI-miR-2284e	AAGUUCAUUCGGAUUUUUCC
LI-miR-2391	9913.4	LI-miR-2391	AAAAAAAAAGCUCCCCCCC
LI-miR-940	9913.4	LI-miR-940	AAGGCUGGGCCCCCGCUCUGC
LI-miR-2425-3p	9913.4	LI-miR-2425-3p	UUCCUAGACCCUGCCCUCCU
LI-miR-2313-3p	9913.4	LI-miR-2313-3p	CCAGUUCUACGCUGCAUGCC
bta-miR-449b	9913	bta-miR-449b	AGGCAGUGUAUUGUUAGCUGGC
bta-miR-2419-5p	9913	bta-miR-2419-5p	AUCGCAUCAACACUCGUCUGUU
bta-miR-2489	9913	bta-miR-2489	AAAUGACAGGGGACAUGAGUUU
bta-miR-29e	9913	bta-miR-29e	UAGCAUCAUUUGAAAUCAGUGUUU
bta-miR-2450c	9913	bta-miR-2450c	CACGUCAGUAGAGGCGCGUGUG
bta-miR-940	9913	bta-miR-940	AAGGCUGGGCCCCCGCUCCGC
bta-miR-2391	9913	bta-miR-2391	AAAAAAAAAAACUCCCCCCC
bta-miR-2313-3p	9913	bta-miR-2313-3p	CCAGUUCCACGCUGCAUGCC
bta-miR-2285t	9913	bta-miR-2285t	AGAAUCUGGAUGAACUUUUUGG
bta-miR-1291	9913	bta-miR-1291	UGGCCCUGACUGAAGACCUGCAGU
bta-miR-2425-3p	9913	bta-miR-2425-3p	UUCGUAGACCCUGCCCUCCU
bta-miR-2318	9913	bta-miR-2318	GUGUAUGAUGAAUUAUCUGACC
bta-miR-29d	9913	bta-miR-29d	UAGCACCAUUUGAAAUCGAUUA
bta-miR-2893	9913	bta-miR-2893	GUGGAGGAGAAUGCCCGGGG
bta-miR-2418	9913	bta-miR-2418	UGGGAUGAGUGUGGCGUGGUCG
bta-miR-2285m	9913	bta-miR-2285m	AAAACGCAAAUGAACUUUUUGG
bta-miR-2369	9913	bta-miR-2369	GUAGGUUGUGGGUUUUUGUUU
bta-miR-1584-3p	9913	bta-miR-1584-3p	CUCUCUCCGCAGACCUCAGCCG
bta-miR-2883	9913	bta-miR-2883	CUUCCCGUGUGUUGAGCC
bta-miR-653	9913	bta-miR-653	GUGUUGAAACAAUCUCUGUUG
bta-miR-2285o	9913	bta-miR-2285o	AAACCCGAACGAACUUUUGG
bta-miR-2467-5p	9913	bta-miR-2467-5p	ACCCCAAGCCUGGCUGCUACCU
bta-miR-2434	9913	bta-miR-2434	UUGUUGGGGUUUUUUUGUAU
bta-miR-2419-3p	9913	bta-miR-2419-3p	CAGGCGGGUGCUAAUACGAUCA
bta-miR-2284y	9913	bta-miR-2284y	AAAAGUUCGUUCGGGUUUUUC
bta-miR-2284e	9913	bta-miR-2284e	AAGUUCGUUCGGAUUUUUCC
bta-miR-2446	9913	bta-miR-2446	UAAAAUAUAUUUGAAAUCGGGCC
JE-miR-653	9913.2	JE-miR-653	GUGUUGAAACAAUCUCCGUUG
JE-miR-2284y	9913.2	JE-miR-2284y	AAAAGUUCGUUUGGGUUUUUC
JE-miR-1291	9913.2	JE-miR-1291	UGGCCUUGACUGAAGACCUGCAGU
JE-miR-29e	9913.2	JE-miR-29e	UAGCACCAUUUGAAAUCAGUGUUU
JE-miR-2285t	9913.2	JE-miR-2285t	AGAAUCUAGAUGAACUUUUUGG
JE-miR-2284e	9913.2	JE-miR-2284e	AAGUUCAUUCGGAUUUUUCC
JE-miR-2425-3p	9913.2	JE-miR-2425-3p	UUCCUAGACCCUGCCCUCCU
JE-miR-2418	9913.2	JE-miR-2418	UGGGAUGAGUGUGGCGUGGUAG
JE-miR-1584-3p	9913.2	JE-miR-1584-3p	CUCUCUCCGCAGACCUCAGCCA
JE-miR-2450c	9913.2	JE-miR-2450c	CAUGUCAGUAGAGGCGCGUGUG
JE-miR-449b	9913.2	JE-miR-449b	AGGCAGUUAAUUGUUAGCUGGC
JE-miR-2285o	9913.2	JE-miR-2285o	AAACCCGAACGAAAUUUUGG
JE-miR-2391	9913.2	JE-miR-2391	AAAAAAAAAAACUCCCCCGC
JE-miR-940	9913.2	JE-miR-940	AAGGCUGGGCCCCCGCUCUGC
JE-miR-2419-5p	9913.2	JE-miR-2419-5p	AUCACAUCAACACUCGUCUGUU

Supplementary Table 4 – Polymorphic mature miRNA for TargetScan

breed-miRNA family	breed tag	breed miRNA name	mature sequence
JE-miR-2313-3p	9913.2	JE-miR-2313-3p	CCAGUUCUACGCUGCAUGCC
JE-miR-2285m	9913.2	JE-miR-2285m	AAAAUGCAAAUGAACUUUUUGG

Supplementary table 5 – List of all the breeds used in genotyping with seven miRNAs SNPs

Short	Breeds	Number individuals
AAN	Aberdeen-Angus	1288
BAQ	Blonde d'Aquitaine	6
BBL	Belgian Blue	152
CHR	Charolais	3253
CHL	Chillingham	387
FR2	Friesian 2	1
FR7	Friesian 7	1
HER	Hereford	1290
HOL	Holstein-Friesian	9814
LIM	Limousin	3833
MSH	Milking Shorthorn	5
PAR	Parthenaise	75
PIE	Piemontese	2
RDP	Red Poll	1
SAL	Salers	12
SIM	Simmental	752

Supplementary Table 6 – List of polymorphism in miRNA genes and their location for hairpin, mature and seed region, in six cattle breeds

Supplementary Table 6 – List of polymorphism in miRNA genes and their location for hairpin, mature and seed region, in six cattle breeds

mirRNA name	breeds	number of SNPs	location of SNPs	SNP locus
mir-10b	ANGUS	1	hairpin	2:20797700
mir-1179	HOLSTEIN	1	hairpin	21:19985045
	LIMOUSIN	1	hairpin	21:19985045
	FLECKVIEH	1	hairpin	21:19985045
	JERSEY	1	hairpin	21:19985045
mir-1247	HOLSTEIN	1	hairpin	21:68149473
mir-1291	LIMOUSIN	1	seed	5:31283924
	ANGUS	1	seed	5:31283924
	FLECKVIEH	1	seed	5:31283924
	JERSEY	1	seed	5:31283924
	ROMAGNOLA	1	seed	5:31283924
mir-1298	LIMOUSIN	1	hairpin	X:67896209
	JERSEY	1	hairpin	X:67896209
	ROMAGNOLA	1	hairpin	X:67896209
mir-144	LIMOUSIN	1	hairpin	19:20797064
	HOLSTEIN	1	hairpin	19:20797064
	JERSEY	1	hairpin	19:20797064
mir-148a	HOLSTEIN	1	hairpin	4:70414282
	ANGUS	1	hairpin	4:70414282
	LIMOUSIN	1	hairpin	4:70414282
	JERSEY	1	hairpin	4:70414282
mir-152	HOLSTEIN	1	hairpin	19:39081170
	LIMOUSIN	1	hairpin	19:39081170
	FLECKVIEH	1	hairpin	19:39081170
	ROMAGNOLA	1	hairpin	19:39081170
mir-1584	FLECKVIEH	1	mature	3:9881823
	JERSEY	1	mature	3:9881823
	ROMAGNOLA	1	mature	3:9881823
mir-1814b	ANGUS	1	hairpin	22:5004940
mir-1839	ANGUS	1	hairpin	14:1883853
mir-193a	FLECKVIEH	1	hairpin	19:18824295
	ANGUS	1	hairpin	19:18824295
	HOLSTEIN	1	hairpin	19:18824295
	ROMAGNOLA	1	hairpin	19:18824295
	LIMOUSIN	1	hairpin	19:18824295
	JERSEY	1	hairpin	19:18824295
mir-2284a	HOLSTEIN	1	hairpin	21:61304058
	LIMOUSIN	1	hairpin	21:61304058
	FLECKVIEH	1	hairpin	21:61304058
	JERSEY	1	hairpin	21:61304058
mir-2284aa	HOLSTEIN	1	hairpin	11:89357285
	LIMOUSIN	1	hairpin	11:89357285
	FLECKVIEH	1	hairpin	19:29030457
	JERSEY	1	hairpin	11:89357285
	ANGUS	1	hairpin	19:29030457

Supplementary Table 6 – List of polymorphism in miRNA genes and their location for hairpin, mature and seed region, in six cattle breeds

mirRNA name	breeds	number of SNPs	location of SNPs	SNP locus
mir-2284d	FLECKVIEH	2	hairpin	15:43545973 15:43545936
	ANGUS	3	hairpin	15:43545917 15:43545973 15:43545936
	HOLSTEIN	3	hairpin	15:43545917 15:43545973 15:43545936
	ROMAGNOLA	2	hairpin	15:43545917 15:43545973
	LIMOUSIN	3	hairpin	15:43545917 15:43545973 15:43545936
	JERSEY	1	hairpin	15:43545936
mir-2284e	LIMOUSIN	2	seed hairpin	X:61016918 X:61016891
	ANGUS	2	seed hairpin	X:61016918 X:61016891
	HOLSTEIN	2	seed hairpin	X:61016918 X:61016891
	JERSEY	2	seed hairpin	X:61016918 X:61016891
mir-2284n	LIMOUSIN	1	hairpin	16:78343055
	HOLSTEIN	1	hairpin	16:78343055
	FLECKVIEH	1	hairpin	16:78343055
	JERSEY	1	hairpin	16:78343055
mir-2284r	LIMOUSIN	1	hairpin	5:101542291
mir-2284s	FLECKVIEH	1	hairpin	12:53250995
	ANGUS	1	hairpin	12:53250995
	HOLSTEIN	1	hairpin	12:53250995
	ROMAGNOLA	2	hairpin	12:53250992 12:53250995
	LIMOUSIN	1	hairpin	12:53250995
	JERSEY	1	hairpin	12:53250995
mir-2284u	LIMOUSIN	1	hairpin	2:130903878
	HOLSTEIN	1	hairpin	2:130903878
	JERSEY	1	hairpin	2:130903878
	ROMAGNOLA	1	hairpin	2:130903878
mir-2284x	JERSEY	1	hairpin	1:3607768
mir-2284y	HOLSTEIN	2	mature hairpin	1:83105454 1:83105418
	LIMOUSIN	2	hairpin	1:83105418 1:83105422
	FLECKVIEH	1	hairpin	1:83105418
	JERSEY	3	mature hairpin	1:83105454 1:83105418 1:83105422
	ROMAGNOLA	3	hairpin	1:83105418 1:83105422 11:73158307

Supplementary Table 6 – List of polymorphism in miRNA genes and their location for hairpin, mature and seed region, in six cattle breeds

mirRNA name	breeds	number of SNPs	location of SNPs	SNP locus
mir-2284z	FLECKVIEH	1	hairpin	7:96924920
	ANGUS	2	hairpin	7:96924920 11:21374969
	HOLSTEIN	2	hairpin	7:96924920 11:21374969
	ROMAGNOLA	1	hairpin	11:21374969
	LIMOUSIN	2	hairpin	7:96924920 5:91263081
	JERSEY	3	hairpin	7:96924920 5:91263081 11:21374969
mir-2285b	LIMOUSIN	1	hairpin	15:39596171
	ANGUS	1	hairpin	15:39596171
	JERSEY	1	hairpin	15:39596171
	ROMAGNOLA	1	hairpin	15:39596171
mir-2285e	HOLSTEIN	1	hairpin	1:158102103
	JERSEY	1	hairpin	1:158102103
mir-2285g	HOLSTEIN	1	hairpin	18:25103694
	JERSEY	1	hairpin	18:25103694
mir-2285h	HOLSTEIN	1	hairpin	12:15678874
	ANGUS	1	hairpin	12:15678874
	FLECKVIEH	1	hairpin	12:15678874
	JERSEY	1	hairpin	12:15678874
	ROMAGNOLA	1	hairpin	12:15678891
mir-2285j	FLECKVIEH	1	hairpin	23:3208879
	ANGUS	1	hairpin	23:3208879
	HOLSTEIN	1	hairpin	23:3208879
	ROMAGNOLA	1	hairpin	23:3208879
	LIMOUSIN	1	hairpin	23:3208879
	JERSEY	1	hairpin	23:3208879
mir-2285l	ROMAGNOLA	3	hairpin	2:103938949 2:103938951 2:103938964
mir-2285m	FLECKVIEH	1	seed	5:111012132
	ANGUS	1	seed	5:111012132
	HOLSTEIN	1	seed	5:111012132
	ROMAGNOLA	1	seed	5:111012132
	LIMOUSIN	1	seed	5:111012132
	JERSEY	1	seed	5:111012132
mir-2285o	FLECKVIEH	1	hairpin	12:16533036
	JERSEY	1	mature	12:16533036
mir-2285t	FLECKVIEH	1	seed	3:7929201
	JERSEY	1	seed	3:7929201
	ROMAGNOLA	1	seed	3:7929201
mir-2293	LIMOUSIN	1	hairpin	10:97457637
	JERSEY	1	hairpin	10:97457637
	ROMAGNOLA	1	hairpin	10:97457637
mir-2302	ROMAGNOLA	1	hairpin	12:90660547
mir-2313	LIMOUSIN	1	seed	15:34628957

Supplementary Table 6 – List of polymorphism in miRNA genes and their location for hairpin, mature and seed region, in six cattle breeds

mirRNA name	breeds	number of SNPs	location of SNPs	SNP locus
	HOLSTEIN	1	seed	15:34628957
	FLECKVIEH	1	seed	15:34628957
	JERSEY	1	seed	15:34628957
	ROMAGNOLA	1	seed	15:34628957
mir-2318	LIMOUSIN	1	seed	15:78356674
	ANGUS	1	seed	15:78356674
	HOLSTEIN	1	seed	15:78356674
mir-2325c	HOLSTEIN	1	hairpin	25:26681109
	ANGUS	1	hairpin	25:26681109
mir-2329	LIMOUSIN	1	hairpin	18:48594055
	ANGUS	1	hairpin	18:48594055
	JERSEY	1	hairpin	18:48594055
mir-2340	ROMAGNOLA	1	hairpin	19:38899686
mir-2355	HOLSTEIN	2	hairpin	2:95834599 2:95834624
	ANGUS	2	hairpin	2:95834599 2:95834624
	LIMOUSIN	2	hairpin	2:95834599 2:95834624
	JERSEY	2	hairpin	2:95834599 2:95834624
	ROMAGNOLA	2	hairpin	2:95834599 2:95834624
mir-2364	LIMOUSIN	1	hairpin	21:22859957
	ANGUS	1	hairpin	21:22859957
	HOLSTEIN	1	hairpin	21:22859957
	FLECKVIEH	1	hairpin	21:22859957
	JERSEY	1	hairpin	21:22859957
mir-2369	HOLSTEIN	5	mature seed hairpin	22:40172551 22:40172555 22:40172560 22:40172579 22:40172586
	ANGUS	5	mature seed hairpin	22:40172551 22:40172555 22:40172560 22:40172579 22:40172586
	JERSEY	1	hairpin	22:40172586
	ROMAGNOLA	1	hairpin	22:40172551
mir-2371	LIMOUSIN	1	hairpin	22:45084598
	HOLSTEIN	1	hairpin	22:45084598
	FLECKVIEH	1	hairpin	22:45084598
	JERSEY	1	hairpin	22:45084598
	ANGUS	1	hairpin	22:45084598
mir-2377	HOLSTEIN	1	hairpin	23:13082483
	JERSEY	1	hairpin	23:13082483
	ROMAGNOLA	1	hairpin	23:13082483
mir-2380	HOLSTEIN	1	hairpin	24:31054832
	LIMOUSIN	1	hairpin	24:31054832
	FLECKVIEH	1	hairpin	24:31054832
	JERSEY	1	hairpin	24:31054832

Supplementary Table 6 – List of polymorphism in miRNA genes and their location for hairpin, mature and seed region, in six cattle breeds

mirRNA name	breeds	number of SNPs	location of SNPs	SNP locus
	ROMAGNOLA	1	hairpin	24:31054832
mir-2388	FLECKVIEH	1	hairpin	25:35300168
	ANGUS	1	hairpin	25:35300168
	LIMOUSIN	1	hairpin	25:35300168
	ROMAGNOLA	1	hairpin	25:35300168
	HOLSTEIN	1	hairpin	25:35300168
	JERSEY	1	hairpin	25:35300168
mir-2391	LIMOUSIN	1	mature	26:10964348
	JERSEY	1	mature	26:10964356
mir-2400	ROMAGNOLA	1	hairpin	27:33164752
mir-2404	JERSEY	1	hairpin	8:74374397
mir-2408	LIMOUSIN	1	hairpin	29:45520815
	ANGUS	1	hairpin	29:45520815
	HOLSTEIN	1	hairpin	29:45520815
	JERSEY	1	hairpin	29:45520815
	ROMAGNOLA	1	hairpin	29:45520815
mir-2412	LIMOUSIN	1	hairpin	3:18845839
	HOLSTEIN	1	hairpin	3:18845839
	ANGUS	1	hairpin	3:18845839
	JERSEY	1	hairpin	3:18845839
	ROMAGNOLA	1	hairpin	3:18845839
mir-2417	LIMOUSIN	3	hairpin	4:50323254 4:50323266 4:50323281
	HOLSTEIN	3	hairpin	4:50323254 4:50323266 4:50323281
	FLECKVIEH	3	hairpin	4:50323254 4:50323266 4:50323281
	JERSEY	3	hairpin	4:50323254 4:50323266 4:50323281
	ROMAGNOLA	3	hairpin	4:50323254 4:50323266 4:50323281
mir-2418	LIMOUSIN	1	mature	4:49304499
	HOLSTEIN	1	mature	4:49304499
	JERSEY	1	mature	4:49304499
	ROMAGNOLA	1	mature	4:49304499
mir-2419	LIMOUSIN	1	mature	4:66346486
	HOLSTEIN	1	mature	4:66346486
	JERSEY	1	seed	4:66346535
	ROMAGNOLA	1	mature	4:66346486
mir-2425	LIMOUSIN	1	seed	5:30251690
	ANGUS	1	seed	5:30251690
	HOLSTEIN	1	seed	5:30251690
	JERSEY	1	seed	5:30251690
	ROMAGNOLA	1	seed	5:30251690
mir-2430	FLECKVIEH	1	hairpin	5:56293174
	ANGUS	1	hairpin	5:56293174

Supplementary Table 6 – List of polymorphism in miRNA genes and their location for hairpin, mature and seed region, in six cattle breeds

mirRNA name	**breeds**	**number of SNPs**	**location of SNPs**	**SNP locus**
	HOLSTEIN	1	hairpin	5:56293174
	ROMAGNOLA	1	hairpin	5:56293174
	LIMOUSIN	1	hairpin	5:56293174
	JERSEY	1	hairpin	5:56293174
mir-2431	HOLSTEIN	2	hairpin	5:56655730 5:56655726
	ANGUS	1	hairpin	5:56655730
	FLECKVIEH	1	hairpin	5:56655730
	ROMAGNOLA	1	hairpin	5:56655730
mir-2434	LIMOUSIN	1	mature	5:64962222
mir-2441	ROMAGNOLA	1	hairpin	5:112896840
mir-2446	ANGUS	1	mature	6:99976591
mir-2450c	HOLSTEIN	1	seed	6:107741122
	ANGUS	1	seed	6:107741122
	JERSEY	1	seed	6:107741122
mir-2456	HOLSTEIN	1	hairpin	7:21271950
mir-2462	JERSEY	1	hairpin	7:82645318
mir-2467	FLECKVIEH	2	mature hairpin	8:1172076 8:1172064
	ANGUS	1	mature	8:1172076
	HOLSTEIN	2	mature hairpin	8:1172076 8:1172064
	ROMAGNOLA	2	mature hairpin	8:1172076 8:1172064
	LIMOUSIN	2	mature hairpin	8:1172076 8:1172064
	JERSEY	1	hairpin	8:1172064
mir-2481	FLECKVIEH	1	hairpin	9:95289974
	ANGUS	2	hairpin	9:95289974 9:95289970
	LIMOUSIN	2	hairpin	9:95289974 9:95289970
	ROMAGNOLA	1	hairpin	9:95289974
	HOLSTEIN	2	hairpin	9:95289974 9:95289970
	JERSEY	1	hairpin	9:95289974
mir-2489	HOLSTEIN	4	seed hairpin	14:48094694 14:48094695 14:48094744 14:48094745
	ANGUS	1	seed	14:48094695
	FLECKVIEH	3	hairpin	14:48094744 14:48094745 14:48094753
	JERSEY	1	hairpin	14:48094753
mir-2883	LIMOUSIN	2	seed	'18:8166103 18:8166104
	ANGUS	1	seed	18:8166103

Supplementary Table 6 – List of polymorphism in miRNA genes and their location for hairpin, mature and seed region, in six cattle breeds

mirRNA name	breeds	number of SNPs	location of SNPs	SNP locus
	HOLSTEIN	1	seed	18:8166103
	ROMAGNOLA	1	seed	18:8166103
mir-2893	ROMAGNOLA	1	mature	17:73346081
mir-2895	ROMAGNOLA	1	hairpin	26:12010536
mir-29d	HOLSTEIN	1	mature	16:77562609
mir-29e	FLECKVIEH	1	seed	16:77562055
	ANGUS	1	seed	16:77562055
	HOLSTEIN	1	seed	16:77562055
	ROMAGNOLA	1	seed	16:77562055
	LIMOUSIN	1	seed	16:77562055
	JERSEY	1	seed	16:77562055
mir-32	ANGUS	1	hairpin	8:100305174
mir-320b	FLECKVIEH	1	hairpin	4:96417250
	ANGUS	1	hairpin	4:96417250
	HOLSTEIN	1	hairpin	4:96417250
	ROMAGNOLA	1	hairpin	4:96417250
	LIMOUSIN	1	hairpin	4:96417250
	JERSEY	1	hairpin	4:96417250
mir-342	ROMAGNOLA	1	hairpin	21:66706858
mir-3432	ROMAGNOLA	3	hairpin	21:55746863 21:55746864 21:55746870
mir-449b	JERSEY	2	mature seed	20:23967292 20:23967291
mir-453	JERSEY	1	hairpin	21:67594706
mir-551b	HOLSTEIN	1	hairpin	1:99671783
	ANGUS	1	hairpin	1:99671783
	LIMOUSIN	1	hairpin	1:99671783
	JERSEY	1	hairpin	1:99671783
	ROMAGNOLA	1	hairpin	1:99671783
mir-568	LIMOUSIN	1	hairpin	1:59398318
	HOLSTEIN	1	hairpin	1:59398318
	ROMAGNOLA	1	hairpin	1:59398318
mir-574	LIMOUSIN	2	hairpin	18:63074633 18:63074634
	HOLSTEIN	2	hairpin	18:63074633 18:63074634
mir-584	FLECKVIEH	1	hairpin	29:37319065
	ANGUS	1	hairpin	29:37319065
	HOLSTEIN	1	hairpin	29:37319065
	ROMAGNOLA	1	hairpin	29:37319065
	LIMOUSIN	1	hairpin	29:37319065
	JERSEY	1	hairpin	29:37319065
mir-6521	FLECKVIEH	1	hairpin	17:66961929
	ANGUS	1	hairpin	17:66961929
	LIMOUSIN	2	hairpin	17:66961929 17:66961958
	ROMAGNOLA	1	hairpin	17:66961929
	HOLSTEIN	2	hairpin	17:66961929 17:66961958
	JERSEY	1	hairpin	17:66961929

Supplementary Table 6 – List of polymorphism in miRNA genes and their location for hairpin, mature and seed region, in six cattle breeds

mirRNA name	breeds	number of SNPs	location of SNPs	SNP locus
mir-6526	LIMOUSIN	3	hairpin	X:28508362 X:28508392 X:30287009
	HOLSTEIN	3	hairpin	X:28508362 X:28508392 X:30287009
	ROMAGNOLA	1	hairpin	X:28508362
	JERSEY	2	hairpin	X:28508362 X:28508392
	ANGUS	2	hairpin	X:28508362 X:28508392
mir-6527	LIMOUSIN	1	hairpin	13:79549829
	HOLSTEIN	1	hairpin	13:79549829
	JERSEY	1	hairpin	13:79549829
	ANGUS	1	hairpin	13:79549829
	ROMAGNOLA	1	hairpin	13:79549829
mir-653	LIMOUSIN	1	mature	4:10653589
	ANGUS	1	mature	4:10653589
	HOLSTEIN	1	mature	4:10653589
	JERSEY	1	mature	4:10653589
mir-6531	HOLSTEIN	4	hairpin	23:31589168 23:31589189 23:31589191 23:31589206
	LIMOUSIN	1	hairpin	23:31589168
	JERSEY	4	hairpin	23:31589168 23:31589189 23:31589191 23:31589206
mir-7	FLECKVIEH	1	hairpin	21:19989151
	ANGUS	2	hairpin	21:19989151 21:19989081
	LIMOUSIN	1	hairpin	21:19989081
	ROMAGNOLA	2	hairpin	21:19989151 21:19989081
	HOLSTEIN	1	hairpin	21:19989151
	JERSEY	2	hairpin	21:19989151 21:19989081
mir-874	FLECKVIEH	1	hairpin	7:50687460
	ANGUS	1	hairpin	7:50687460
	LIMOUSIN	1	hairpin	7:50687460
	ROMAGNOLA	1	hairpin	7:50687460
	HOLSTEIN	1	hairpin	7:50687460
	JERSEY	1	hairpin	7:50687460
mir-940	LIMOUSIN	1	mature	25:1792942
	ANGUS	1	mature	25:1792942

Supplementary Table 6 – List of polymorphism in miRNA genes and their location for hairpin, mature and seed region, in six cattle breeds

mirRNA name	**breeds**	**number of SNPs**	**location of SNPs**	**SNP locus**
	JERSEY	1	mature	25:1792942

Supplementary Table 7 – Minimum free energy of reference and variant pre-miRNA structure of all polymorphic miRNAs

The comparison of pre-miRNA haplotypes structure shows MFE variation. ΔMFE: difference between reference MFE and the mean of the variant MFE as ΔMFE= MFEref - M(MFEvar). The value "0" correspond to breed which have no SNPs identified for the given miRNA and are not included in the mean MFE variant calculation.

	ref	LM	AN	HO	JE	RO	FL		
number of miRNAs	**90**	**56**	**45**	**59**	**63**	**52**	**32**		
miRNA_ID	**MFE**	**MFE**	**MFE**	**MFE**	**MFE**	**MFE**	**MFE**	**Variant MFE mean**	**ΔMFE**
mir-10b	-37.8	0	-37	0	0	0	0	-37	-0.8
mir-1179	-29.8	-26.9	0	-26.9	-26.9	0	-26.9	-26.9	-2.9
mir-1247	-48.4	0	0	-48.4	0	0	0	-48.4	0.0
mir-1291	-27.3	-25.9	-25.9	0	-25.9	-25.9	-25.9	-25.9	-1.4
mir-1298	-49.1	-49.1	0	0	-49.1	-49.1	0	-49.1	0.0
mir-144	-39.8	-39.8	0	-39.8	-39.8	0	0	-39.8	0.0
mir-148a	-27.9	-27.9	-27.9	-27.9	-27.9	0	0	-27.9	0.0
mir-152	-49.2	-46.2	0	-46.2	0	-46.2	-46.2	-46.2	-3.0
mir-1584	-39.6	0	0	0	-35.4	-35.4	-35.4	-35.4	-4.2
mir-1839	-18.3	0	-18.3	0	0	0	0	-18.3	0.0
mir-193a	-48.1	-45.6	-45.6	-45.6	-45.6	-45.6	-45.6	-45.6	-2.5
mir-2284a	-29.9	-29.8	0	-29.8	-29.8	0	-29.8	-29.8	-0.1
mir-2284aa-1	-30.3	-30.3	0	-30.3	-30.3	0	0	-30.3	0.0
mir-2284aa-3	-40.8	0	-43.4	0	0	0	-43.4	-43.4	2.6
mir-2284d	-20	-28.7	-28.7	-28.7	-20.8	-27.9	-24.5	-26.55	6.6
mir-2284e	-19.8	-16.7	-16.7	-16.7	-16.7	0	0	-16.7	-3.1
mir-2284n	-28.2	-27.9	0	-27.9	-27.9	0	-27.9	-27.9	-0.3
mir-2284r	-32.7	-26	0	0	0	0	0	-26	-6.7
mir-2284s	-28.9	-29.9	-29.9	-29.9	-29.9	-29.9	-29.9	-29.9	1.0
mir-2284u	-24.3	-23.2	0	-23.2	-23.2	-23.2	0	-23.2	-1.1
mir-2284x	-39.8	0	0	0	-36.8	0	0	-36.8	-3.0
mir-2284y-1	-47.9	0	0	0	0	-43.7	0	-43.7	-4.2
mir-2284y-3	-35.9	-35.9	0	-34.1	-33.8	-35.9	-29.9	-33.92	-2.0
mir-2284z-2	-35.6	0	-35.9	-35.9	-35.9	-35.9	0	-35.9	0.3
mir-2284z-6	-39.1	-36.8	0	0	-36.8	0	0	-36.8	-2.3
mir-2285b	-36.5	-36.8	-36.8	0	-36.8	-36.8	0	-36.8	0.3
mir-2285e-1	-29	0	0	-29	-29	0	0	-29	0.0
mir-2285g	-23.5	0	0	-21.1	-21.1	0	0	-21.1	-2.4
mir-2285h	-43.8	0	-43.8	-43.8	-43.8	-43.8	-43.8	-43.8	0.0
mir-2285j-2	-30.8	-37	-37	-37	-37	-37	-37	-37	6.2
mir-2285l	-36.7	0	0	0	0	-36.9	0	-36.9	0.2
mir-2285m-4	-25.8	-24.3	-24.3	-24.3	-24.3	-24.3	-24.3	-24.3	-1.5
mir-2285o-1	-28.9	0	0	0	-24.3	0	-24.3	-24.3	-4.6

Supplementary Table 7 – Minimum free energy of reference and variant pre-miRNA structure of all polymorphic miRNAs

	ref	LM	AN	HO	JE	RO	FL		
number of miRNAs	90	56	45	59	63	52	32		
miRNA_ID	MFE	MFE	MFE	MFE	MFE	MFE	MFE	Variant MFE mean	ΔMFE
mir-2293	-14.7	-15.4	0	0	-15.4	-15.4	0	-15.4	0.7
mir-2302	-43.4	0	0	0	0	-38	0	-38	-5.4
mir-2313	-35.5	-36	0	-36	-36	-36	-36	-36	0.5
mir-2318	-16.6	-15.2	-15.2	-15.2	0	0	0	-15.2	-1.4
mir-2325c	-18.7	0	-16.1	-16.1	0	0	0	-16.1	-2.6
mir-2329-2	-51.3	-51.3	-51.3	0	-51.3	0	0	-51.3	0.0
mir-2340	-18.1	0	0	0	0	-16.6	0	-16.6	-1.5
mir-2355	-20.4	-24.5	-24.5	-24.5	-24.5	-24.5	0	-24.5	4.1
mir-2364	-33.6	-29.8	-29.8	-29.8	-29.8	0	-29.8	-29.8	-3.8
mir-2369	-17	0	-17	-17	-16.9	-16.9	0	-16.95	-0.1
mir-2371	-15.3	-17.3	-17.3	-17.3	-17.3	0	-17.3	-17.3	2.0
mir-2377	-24	0	0	-24.2	-24.2	-24.2	0	-24.2	0.2
mir-2380	-38.2	-44.4	0	-44.4	-44.4	-44.4	-44.4	-44.4	6.2
mir-2388	-31.9	-31.9	-31.9	-31.9	-31.9	-31.9	-31.9	-31.9	0.0
mir-2400	-34	0	0	0	0	-27.8	0	-27.8	-6.2
mir-2404-2	-23.2	0	0	0	-20.6	0	0	-20.6	-2.6
mir-2408	-38	-38	-38	-38	-38	-38	0	-38	0.0
mir-2412	-24.5	-24.5	-24.5	-24.5	-24.5	-24.5	0	-24.5	0.0
mir-2417	-44.2	-52.8	0	-52.8	-52.8	-52.8	-52.8	-52.8	8.6
mir-2418	-34.3	-29.8	0	-29.8	-29.8	-29.8	0	-29.8	-4.5
mir-2419	-44.2	-50.1	0	-50.1	-41.6	-50.1	0	-47.975	3.8
mir-2425	-37.9	-34.3	-34.3	-34.3	-34.3	-34.3	0	-34.3	-3.6
mir-2430	-26.3	-24.7	-24.7	-24.7	-24.7	-24.7	-24.7	-24.7	-1.6
mir-2431	-24	0	-19.2	-21.6	0	-19.2	-19.2	-19.8	-4.2
mir-2434	-19	-17.5	0	0	-17.5	0	0	-17.5	-1.5
mir-2441	-40.8	0	0	0	0	-40.1	0	-40.1	-0.7
mir-2446	-24.2	0	-23	0	0	0	0	-23	-1.2
mir-2450c	-30.2	-31.9	-31.9	-31.9	-31.9	0	0	-31.9	1.7
mir-2456	-28.6	0	0	-25.8	0	0	0	-25.8	-2.8
mir-2462	-30.5	0	0	0	-31.3	0	0	-31.3	0.8
mir-2467	-38.8	-35.9	-34.1	-35.9	-40.6	-35.9	-35.9	-	-2.4
mir-2481	-21.8	-17.5	-17.5	-17.5	-18.8	-18.8	-18.8	-18.15	-3.7
mir-2489	-19.4	0	-23.1	-19	-17.6	0	-17.2	-19.225	-0.2
mir-2883	-29.3	-31	-31	-31	0	-31	0	-31	1.7
mir-2893	-31.4	0	0	0	0	-31.4	0	-31.4	0.0
mir-2895	-11.3	0	0	0	0	-9.6	0	-9.6	-1.7
mir-29d	-28.6	0	0	-35.3	0	0	0	-35.3	6.7
mir-29e	-28.5	-31.1	-31.1	-31.1	-31.1	-31.1	-31.1	-31.1	2.6
mir-32	-29.5	0	-29.5	0	0	0	0	-29.5	0.0
mir-320b	-24.3	-24.9	-24.9	-24.9	-24.9	-24.9	-24.9	-24.9	0.6
mir-342	-40.3	0	0	0	0	-43	0	-43	2.7
mir-3432-1	-36.4	0	0	0	0	-30.2	0	-30.2	-6.2
mir-449b	-34	0	0	0	-31.3	0	0	-31.3	-2.7
mir-453	-30.4	0	0	0	-30.4	0	0	-30.4	0.0
mir-551b	-41.8	-39.9	-39.9	-39.9	-39.9	-39.9	0	-39.9	-1.9
mir-568	-31.2	-31.2	0	-31.2	0	-31.2	0	-31.2	0.0

Supplementary Table 7 – Minimum free energy of reference and variant pre-miRNA structure of all polymorphic miRNAs

	ref	LM	AN	HO	JE	RO	FL		
number of miRNAs	**90**	**56**	**45**	**59**	**63**	**52**	**32**		
miRNA_ID	**MFE**	**MFE**	**MFE**	**MFE**	**MFE**	**MFE**	**MFE**	**Variant MFE mean**	**ΔMFE**
mir-574	-11.8	-10.4	0	-10.4	0	0	0	-10.4	-1.4
mir-584-7	-19.8	-22	-22	-22	-22	-22	-22	-22	2.2
mir-6521	-41.9	-46.7	-46.3	-46.7	-46.3	-46.3	-46.3	-	4.5
mir-6526-1	-37.8	-39.9	0	-39.9	0	0	0	-39.9	2.1
mir-6526-3	-39.5	-41.1	-41.1	-41.1	-41.1	-39.9	0	-40.86	1.4
mir-6527	-22.4	-22.4	-22.4	-22.4	-22.4	-22.4	0	-22.4	0.0
mir-653	-38.3	-41.2	-41.2	-41.2	-41.2	0	0	-41.2	2.9
mir-6531	-21	-16.7	0	-16	-16	0	0	-	-4.8
mir-7-1	-43	-42.6	-37.9	-38.3	-37.9	-37.9	-38.3	-	-4.2
mir-874	-36	-36	-36	-36	-36	-36	-36	-36	0.0
mir-940	-51.1	-49.5	-49.5	0	-49.5	0	0	-49.5	-1.6

Supplementary Table 8 – List of all breed related polymorphic miRNA and their targets, ranked by score

(breed)miRNA ID	number of polymorphic sites	number of common sites	context score+ sum	ssr	event
AN-miR-1291	1243	0	-262.728	-326570.904	Decrease:219 Lost:956
JE-miR-1291	1243	0	-262.728	-326570.904	Decrease:219 Lost:956
LM-miR-1291	1243	0	-262.728	-326570.904	Decrease:219 Lost:956
RO-miR-1291	1243	0	-262.728	-326570.904	Decrease:219 Lost:956
HO-miR-2883	1400	0	-164.245	-229943	Increase:51 Gain:1197
AN-miR-2883	1398	0	-164.007	-229281.786	Increase:50 Gain:1196
RO-miR-2883	1398	0	-163.997	-229267.806	Increase:50 Gain:1196
LM-miR-2285m	1346	0	-141.067	-189876.182	Increase:52 Gain:1119
HO-miR-2285m	1344	0	-140.896	-189364.224	Increase:52 Gain:1119
FL-miR-2285m	1343	0	-140.866	-189183.038	Increase:52 Gain:1118
RO-miR-2285m	1343	0	-140.866	-189183.038	Increase:52 Gain:1118
AN-miR-2285m	1343	0	-140.862	-189177.666	Increase:52 Gain:1118
JE-miR-2285m	1342	0	-140.632	-188728.144	Increase:52 Gain:1117
JE-miR-2419-5p	1240	0	-137.987	-171103.88	Increase:28 Gain:1059
RO-miR-1291	960	0	-170.574	-163751.04	Increase:216 Gain:644
JE-miR-1291	959	0	-170.568	-163574.712	Increase:215 Gain:644
AN-miR-1291	960	0	-170.281	-163469.76	Increase:216 Gain:645
LM-miR-1291	958	0	-170	-162860	Increase:216 Gain:643
HO-miR-29e	909	1	-170.065	-155256.264	Increase:125 Gain:720
RO-miR-29e	910	0	-170.321	-154992.11	Increase:125 Gain:721
FL-miR-29e	910	0	-170.32	-154991.2	Increase:125 Gain:721
JE-miR-29e	909	1	-170.267	-154772.703	Increase:125 Gain:719
AN-miR-29e	909	0	-170.224	-154733.616	Increase:125 Gain:720

Supplementary Table 8 – List of all breed related polymorphic miRNA and their targets, ranked by score

(breed)miRNA ID	number of polymorphic sites	number of common sites	context score+ sum	ssr	event
LM-miR-29e	909	1	-170.126	-154644.534	Increase:125 Gain:721
HO-miR-2489	870	0	-109.549	-95307.63	Decrease:137 Lost:714
AN-miR-29e	755	0	-122.281	-92322.155	Decrease:121 Lost:621
FL-miR-29e	755	0	-122.281	-92322.155	Decrease:121 Lost:621
RO-miR-29e	755	0	-122.281	-92322.155	Decrease:121 Lost:621
JE-miR-29e	754	1	-122.209	-92145.586	Decrease:121 Lost:620
LM-miR-29e	754	1	-122.209	-92145.586	Decrease:121 Lost:620
HO-miR-29e	754	1	-122.209	-92145.586	Decrease:121 Lost:621
AN-miR-2450c	781	1	-100.524	-78509.244	Increase:25 Gain:704
HO-miR-2450c	780	0	-100.239	-78186.42	Increase:25 Gain:703
JE-miR-2450c	779	0	-100.154	-78019.966	Increase:25 Gain:703
LM-miR-2883	883	0	-88.1	-77792.3	Increase:34 Gain:753
LM-miR-2284e	764	0	-95.645	-73072.78	Increase:14 Gain:686
AN-miR-2284e	762	0	-95.437	-72722.994	Increase:14 Gain:684
JE-miR-2284e	761	0	-95.291	-72516.451	Increase:14 Gain:683
HO-miR-2284e	761	0	-95.287	-72513.407	Increase:14 Gain:683
AN-miR-2425-3p	638	0	-98.316	-62725.608	Increase:9 Gain:578
RO-miR-2425-3p	638	0	-98.307	-62719.866	Increase:9 Gain:578
JE-miR-2425-3p	638	0	-98.303	-62717.314	Increase:9 Gain:578
LM-miR-2425-3p	637	0	-98.268	-62596.716	Increase:9 Gain:577
HO-miR-2425-3p	637	0	-98.263	-62593.531	Increase:9 Gain:577
HO-miR-2489	790	0	-76.584	-60501.36	Increase:136 Gain:600
HO-miR-2369	578	0	-82.156	-47486.168	Increase:44 Gain:509
AN-miR-2369	578	0	-81.915	-47346.87	Increase:44 Gain:509
AN-miR-2369	445	0	-64.327	-28625.515	Decrease:41 Lost:404
HO-miR-2369	445	0	-64.327	-28625.515	Decrease:41 Lost:404
AN-miR-2883	249	0	-56.653	-14106.597	Decrease:60 Lost:188

Supplementary Table 8 – List of all breed related polymorphic miRNA and their targets, ranked by score

(breed)miRNA ID	number of polymorphic sites	number of common sites	context score+ sum	ssr	event
HO-miR-2883	249	0	-56.653	-14106.597	Decrease:61 Lost:187
RO-miR-2883	249	0	-56.653	-14106.597	Decrease:60 Lost:188
LM-miR-2883	248	0	-56.483	-14007.784	Decrease:38 Lost:210
HO-miR-2450c	214	0	-46.495	-9949.93	Decrease:27 Lost:186
JE-miR-2450c	214	0	-46.495	-9949.93	Decrease:27 Lost:186
AN-miR-2285m	225	0	-43.896	-9876.6	Decrease:60 Lost:162
FL-miR-2285m	225	0	-43.896	-9876.6	Decrease:60 Lost:162
HO-miR-2285m	225	0	-43.896	-9876.6	Decrease:60 Lost:162
JE-miR-2285m	225	0	-43.896	-9876.6	Decrease:60 Lost:162
LM-miR-2285m	225	0	-43.896	-9876.6	Decrease:60 Lost:162
RO-miR-2285m	225	0	-43.896	-9876.6	Decrease:60 Lost:162
AN-miR-2450c	213	1	-46.325	-9867.225	Decrease:27 Lost:185
JE-miR-2419-5p	103	0	-25.991	-2677.073	Decrease:29 Lost:74
AN-miR-2284e	103	0	-23.01	-2370.03	Decrease:13 Lost:90
HO-miR-2284e	103	0	-23.01	-2370.03	Decrease:13 Lost:90
JE-miR-2284e	103	0	-23.01	-2370.03	Decrease:13 Lost:90
LM-miR-2284e	103	0	-23.01	-2370.03	Decrease:13 Lost:90
AN-miR-2425-3p	73	0	-18.762	-1369.626	Decrease:9 Lost:62
HO-miR-2425-3p	73	0	-18.762	-1369.626	Decrease:9 Lost:62
JE-miR-2425-3p	73	0	-18.762	-1369.626	Decrease:9 Lost:62
LM-miR-2425-3p	73	0	-18.762	-1369.626	Decrease:9 Lost:62
RO-miR-2425-3p	73	0	-18.762	-1369.626	Decrease:9 Lost:62
JE-miR-449b	999	221	-186.325	-842.256448	Decrease:430 Lost:516
RO-miR-2313-3p	970	241	-132.434	-533.033112	Increase:442 Gain:460
LM-miR-2313-3p	969	241	-132.436	-532.4916349	Increase:441 Gain:460
JE-miR-2313-3p	970	242	-132.442	-530.862562	Increase:442 Gain:460
FL-miR-2313-3p	969	242	-132.402	-530.1551157	Increase:441 Gain:460

Supplementary Table 8 – List of all breed related polymorphic miRNA and their targets, ranked by score

(breed)miRNA ID	number of polymorphic sites	number of common sites	context score+ sum	ssr	event
HO-miR-2313-3p	967	242	-132.211	-528.2976736	Increase:441 Gain:458
LM-miR-2313-3p	847	241	-147.635	-518.8665768	Decrease:446 Lost:365
RO-miR-2313-3p	847	241	-147.635	-518.8665768	Decrease:447 Lost:364
FL-miR-2313-3p	846	242	-147.484	-515.584562	Decrease:446 Lost:364
HO-miR-2313-3p	846	242	-147.484	-515.584562	Decrease:446 Lost:364
JE-miR-2313-3p	846	242	-147.484	-515.584562	Decrease:447 Lost:363
AN-miR-2489	750	177	-104.273	-441.8347458	Decrease:177 Lost:544
JE-miR-449b	693	221	-127.04	-398.3652489	Increase:418 Gain:220
JE-miR-2285t	591	208	-83.585	-237.4939183	Decrease:222 Lost:344
FL-miR-2285t	590	209	-83.576	-235.9322488	Decrease:222 Lost:343
RO-miR-2285t	590	209	-83.576	-235.9322488	Decrease:222 Lost:343
LM-miR-2318	355	151	-57.633	-135.4948013	Decrease:132 Lost:213
AN-miR-2318	354	152	-57.582	-134.1054474	Decrease:132 Lost:212
HO-miR-2318	353	153	-57.542	-132.7603007	Decrease:132 Lost:211
LM-miR-2318	290	151	-52.567	-100.9564901	Increase:128 Gain:152
AN-miR-2318	289	152	-52.329	-99.49395395	Increase:128 Gain:151
HO-miR-2318	288	153	-52.203	-98.26447059	Increase:128 Gain:150
JE-miR-2285t	399	208	-49.76	-95.45307692	Increase:222 Gain:158
FL-miR-2285t	398	209	-49.446	-94.16032536	Increase:222 Gain:157
RO-miR-2285t	398	209	-49.446	-94.16032536	Increase:222 Gain:157
AN-miR-2489	238	177	-29.559	-39.746	Increase:163 Gain:69
LM-miR-2434	3	642	-0.843	-0.003939252	Gain:3
JE-miR-2285o	1	139	-0.229	-0.001647482	Gain:1
LM-miR-2418	2	989	-0.472	-0.000954499	Decrease:2
LM-miR-940	3	1548	-0.491	-0.00095155	Increase:1 Gain:2
LM-miR-2418	2	989	-0.384	-0.000776542	Gain:2
LM-miR-2467-5p	2	1438	-0.494	-0.000687065	Decrease:1 Lost:1

Supplementary Table 8 – List of all breed related polymorphic miRNA and their targets, ranked by score

(breed)miRNA ID	number of polymorphic sites	number of common sites	context score+ sum	ssr	event
HO-miR-2467-5p	3	1439	-0.321	-0.000669215	Increase:2 Gain:1
HO-miR-2419-3p	1	520	-0.318	-0.000611538	Gain:1
HO-miR-2418	2	989	-0.272	-0.000550051	Decrease:1 Lost:1
LM-miR-2419-3p	1	519	-0.251	-0.000483622	Gain:1
LM-miR-2419-3p	1	519	-0.227	-0.00043738	Lost:1
JE-miR-2418	1	990	-0.28	-0.000282828	Decrease:1
AN-miR-2467-5p	2	1439	-0.189	-0.000262682	Increase:2
AN-miR-2467-5p	1	1439	-0.369	-0.000256428	Decrease:1
HO-miR-2467-5p	1	1439	-0.369	-0.000256428	Decrease:1
RO-miR-2467-5p	1	1439	-0.369	-0.000256428	Decrease:1
AN-miR-653	1	675	-0.096	-0.000142222	Lost:1
LM-miR-653	1	675	-0.096	-0.000142222	Lost:1
HO-miR-29d	1	906	-0.112	-0.000134658	Gain:1
HO-miR-2418	1	989	-0.117	-0.000118301	Gain:1
JE-miR-2418	1	990	-0.116	-0.000117172	Increase:1
LM-miR-2467-5p	1	1438	-0.136	-9.46E-05	Increase:1
RO-miR-2467-5p	1	1439	-0.136	-9.45E-05	Increase:1
AN-miR-940	1	1547	-0.146	-9.44E-05	Lost:1
JE-miR-2284y	1	966	-0.064	-6.63E-05	Gain:1
JE-miR-1584-3p	1	1485	-0.08	-5.39E-05	Decrease:1
AN-miR-940	1	1547	-0.073	-4.72E-05	Gain:1
JE-miR-940	1	1547	-0.073	-4.72E-05	Decrease:1
JE-miR-1584-3p	1	1485	-0.061	-4.11E-05	Gain:1
HO-miR-2284y	1	964	-0.007	-7.26E-06	Decrease:1
AN-miR-653	0	675	NA	NA	NA
HO-miR-2284y	0	964	NA	NA	NA
JE-miR-940	0	1547	NA	NA	NA

Supplementary Table 8 – List of all breed related polymorphic miRNA and their targets, ranked by score

(breed)miRNA ID	number of polymorphic sites	number of common sites	context score+ sum	ssr	event
LM-miR-653	0	675	NA	NA	NA
HO-miR-2419-3p	0	520	NA	NA	NA
HO-miR-29d	0	906	NA	NA	NA
JE-miR-2284y	0	966	NA	NA	NA
JE-miR-2285o	0	139	NA	NA	NA
LM-miR-2434	0	642	NA	NA	NA
LM-miR-940	0	1548	NA	NA	NA

Supplementary table 9 – Ranked list of all significantly enriched pathways for miRNA targets for the different group

Pathway names	SNP type	unique miRNA	unique breeds: qval mean	unique breeds: score mean	unique breeds: number targets	Pathway total molecules	mean score	common miRNA	common breeds: qval	common breeds: score mean	common breeds: number targets
Specific Pathways for multiple miRNAs											
PAK Signaling	Lost	miR-29e miR-449b	AN HO FL JE RO LM : 0.00573412573773 ; JE: 0.00357604289522 ;	AN HO FL JE RO LM : -0.200436111111; JE: -0.237;	AN HO FL JE RO LM : 9.75; JE: 13.0;	110	-0.2187	NA	NA	NA	NA
IL-17 Signaling	Lost	miR-449b miR-29e	JE: 0.00559834346005 ; AN HO FL JE RO LM: 0.00638041040846 ;	JE: -0.182666666667; AN HO FL JE RO LM: -0.245875;	JE: 11.0; AN HO FL JE RO LM: 8.0;	74	-0.2143	NA	NA	NA	NA
Germ Cell-Sertoli Cell Junction Signaling	Lost	miR-29e miR-449b	AN HO FL JE RO LM: 0.00547236035917 ; JE: 0.00321739542629 ;	AN HO FL JE RO LM: -0.240368131868; JE: -0.1831;	AN HO FL JE RO LM: 13.75; JE: 19.0;	169	-0.2117	NA	NA	NA	NA
ErbB Signaling	Lost	miR-449b miR-29e	JE: 0.00663932311561 ; AN HO FL JE RO LM: 0.00554039257701 ;	JE: -0.191076923077; AN HO FL JE RO LM: -0.219222222222;	JE: 12.0; AN HO FL JE RO LM: 9.0;	90	-0.2051	NA	NA	NA	NA
CDK5 Signaling	Lost	miR-29e miR-449b	AN HO FL JE RO: 0.0014070499796; JE: 0.000138676506134;	AN HO FL JE RO LM: -0.206039160839; JE: -0.202095238095;	AN HO FL JE RO LM: 11.8; JE: 17.0;	99	-0.2041	NA	NA	NA	NA
Neurotrophin/TRK Signaling	Lost	miR-29e miR-449b	AN HO FL JE RO LM: 0.00872176203367 ; JE: 0.00981510168582 ;	AN HO FL JE RO LM: -0.205625; JE: -0.198636363636;	AN HO FL JE RO LM: 8.0; JE: 10.0;	76	-0.2021	NA	NA	NA	NA
p70S6K Signaling	Lost	miR-449b miR-29e	JE: 0.000717299272861; AN HO FL JE RO LM: 0.00489910424655 ;	JE: -0.2144; AN HO FL JE RO LM: -0.181090909091;	JE: 18.0; AN HO FL JE RO LM: 11.0;	132	-0.1977	NA	NA	NA	NA

Supplementary table 9 – Ranked list of all significantly enriched pathways for miRNA targets for the different group

Pathway names	SNP type	unique miRNA	unique breeds: qval mean	unique breeds: score mean	unique breeds: number targets	Pathway total molecules	mean score	common miRNA	common breeds: qval	common breeds: score mean	common breeds: number targets
Renin-Angiotensin Signaling	Lost	miR-29e miR-449b	AN HO FL JE RO LM: 0.000871526899158; JE: 0.00336914900931;	AN HO FL JE RO LM: -0.217393333333; JE: -0.172823529412;	AN HO FL JE RO LM: 14.4; JE: 15.0;	126	-0.1951	NA	NA	NA	NA
ERK/MAPK Signaling	Lost	miR-29e miR-449b	AN HO FL JE RO LM: 0.00598231943864; JE: 0.00115828348553;	AN HO FL JE RO LM: -0.17469382353; JE: -0.206444444444;	AN HO FL JE RO LM: 15.6; JE: 23.0;	211	-0.1906	NA	NA	NA	NA
IL-6 Signaling	Lost	miR-29e miR-449b	AN HO FL JE RO LM: 0.00106325254993; JE: 0.00112988147188;	AN HO FL JE RO LM: -0.173002197802; JE: -0.199888888889;	AN HO FL JE RO LM: 13.8; JE: 17.0;	124	-0.1864	NA	NA	NA	NA
Dopamine Receptor Signaling	Lost	miR-29e miR-449b	AN HO FL JE RO LM: 0.00713234856671; JE: 0.00352988357891;	AN HO FL JE RO LM: -0.169108333334; JE: -0.197133333333;	AN HO FL JE RO LM: 8.8; JE: 12.0;	96	-0.1831	NA	NA	NA	NA
Regulation of the Epithelial-Mesenchymal Transition Pathway	Lost	miR-29e miR-449b	AN HO FL JE RO LM: 0.00108383727547; JE: 0.00981510168582;	AN HO FL JE RO LM: -0.1624; JE: -0.202;	AN HO FL JE RO LM: 17.8; JE: 19.0;	196	-0.1822	NA	NA	NA	NA
Thrombopoietin Signaling	Lost	miR-449b miR-29e	JE: 0.00800471371889; AN HO FL JE RO LM: 0.0026932761908;	JE: -0.2074; AN HO FL JE RO LM: -0.1555;	JE: 9.0; AN HO FL JE RO LM: 8.0;	63	-0.1815	NA	NA	NA	NA
CCR3 Signaling in Eosinophils	Lost	miR-29e miR-449b	AN HO FL JE RO LM: 0.00148062235181; JE: 0.00446807941958;	AN HO FL JE RO LM: -0.162276923077; JE: -0.196294117647;	AN HO FL JE RO LM: 13.2; JE: 15.0;	134	-0.1793	NA	NA	NA	NA
PI3K/AKT Signaling	Lost	miR-29e miR-2313-3p	AN HO FL JE RO LM: 0.000961958839535; RO JE FL LI HO: 0.00959884346325;	AN HO FL JE RO LM: -0.205050476191; RO JE FL LI HO: -0.145631578947;	AN HO FL JE RO LM: 14.8; RO JE FL LI HO: 15.0;	151	-0.1753	NA	NA	NA	NA

Supplementary table 9 – Ranked list of all significantly enriched pathways for miRNA targets for the different group

Pathway names	SNP type	unique miRNA	unique breeds: qval mean	unique breeds: score mean	unique breeds: number targets	Pathway total molecules	mean score	common miRNA	common breeds: qval	common breeds: score mean	common breeds: number targets
fMLP Signaling in Neutrophils	Lost	miR-449b miR-2313-3p	JE: 0.00663932311561; RO JE FL LI HO: 0.00675472622557;	JE: -0.2036875; RO JE FL LI HO: -0.141;	JE: 14.0; RO JE FL LI HO: 15.0;	132	-0.1723	NA	NA	NA	NA
Prolactin Signaling	Lost	miR-449b miR-29e	JE: 0.00618627127152; AN HO FL JE RO LM: 0.00689156327002;	JE: -0.185833333333; AN HO FL JE RO LM: -0.1555;	JE: 11.0; AN HO FL JE RO LM: 8.0;	83	-0.1707	NA	NA	NA	NA
Myc Mediated Apoptosis Signaling	Lost	miR-29e miR-2313-3p	AN HO FL JE RO LM: 0.00456509248797; RO JE FL LI HO: 0.00770822281302;	AN HO FL JE RO LM: -0.189125; RO JE FL LI HO: -0.150454545455;	AN HO FL JE RO LM: 8.0; RO JE FL LI HO: 10.0;	62	-0.1698	NA	NA	NA	NA
Sphingosine-1-phosphate Signaling	Lost	miR-449b miR-2285m	JE: 0.00669748319074; RO: 0.00295757050916;	JE: -0.1652; RO: -0.166125;	JE: 14.0; RO: 8.0;	122	-0.1657	NA	NA	NA	NA
Superpathway of Inositol Phosphate Compounds	Lost	miR-449b miR-2313-3p	JE: 0.000717299272861; RO JE FL LI HO: 0.00886394566509;	JE: -0.187230769231; RO JE FL LI HO: -0.14385;	JE: 24.0; RO JE FL LI HO: 20.0;	233	-0.1655	NA	NA	NA	NA
Cholecystokinin/Gastrin-mediated Signaling	Lost	miR-29e miR-2313-3p	AN HO FL JE RO LM: 0.0039156327865; RO JE FL LI HO: 0.00690828934197;	AN HO FL JE RO LM: -0.203818181818; RO JE FL LI HO: -0.1194;	AN HO FL JE RO LM: 11.0; RO JE FL LI HO: 14.0;	106	-0.1616	NA	NA	NA	NA
Specific Pathway for single miRNA											
D-myo-inositol (1,4,5)-trisphosphate Degradation	Lost	miR-2450c	JE AN HO: 0.00387596282884;	JE AN HO: -0.24325;	JE AN HO: 4.0;	22	-0.2433	NA	NA	NA	NA
Superpathway of D-myo-inositol (1,4,5)-trisphosphate Metabolism	Lost	miR-2450c	JE AN HO: 0.00641725959169;	JE AN HO: -0.24325;	JE AN HO: 4.0;	33	-0.2433	NA	NA	NA	NA
IL-22 Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00476319459631;	AN HO FL JE RO LM: -0.229453333333;	AN HO FL JE RO LM: 5.4;	25	-0.2295	NA	NA	NA	NA

Supplementary table 9 – Ranked list of all significantly enriched pathways for miRNA targets for the different group

Pathway names	SNP type	unique miRNA	unique breeds: qval mean	unique breeds: score mean	unique breeds: number targets	Pathway total molecules	mean score	common miRNA	common breeds: qval	common breeds: score mean	common breeds: number targets
Role of MAPK Signaling in the Pathogenesis of Influenza	Lost	miR-29e	AN HO FL JE RO LM: 0.00133626595429;	AN HO FL JE RO LM: -0.229429090909;	AN HO FL JE RO LM: 10.2;	71	-0.2294	NA	NA	NA	NA
NGF Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00616870741179;	AN HO FL JE RO LM: -0.223092727273;	AN HO FL JE RO LM: 10.8;	121	-0.2231	NA	NA	NA	NA
Epithelial Adherens Junction Signaling	Lost	miR-449b	JE: 0.000549009943751;	JE: -0.22;	JE: 21.0;	154	-0.2200	NA	NA	NA	NA
Insulin Receptor Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00907615335254;	AN HO FL JE RO LM: -0.219272727273;	AN HO FL JE RO LM: 11.0;	133	-0.2193	NA	NA	NA	NA
IL-17A Signaling in Airway Cells	Lost	miR-29e	AN FL JE RO HO LM: 0.00761269491717;	AN FL JE RO HO LM: -0.217125;	AN FL JE RO HO LM: 8.0;	76	-0.2171	NA	NA	NA	NA
VEGF Family Ligand-Receptor Interactions	Lost	miR-449b	JE: 0.00739398036574;	JE: -0.2165;	JE: 11.0;	88	-0.2165	NA	NA	NA	NA
IL-12 Signaling and Production in Macrophages	Lost	miR-29e	RO: 0.00945827367552;	RO: -0.216166666667;	RO: 12.0;	134	-0.2162	NA	NA	NA	NA
14-3-3-mediated Signaling	Lost	miR-29e	AN FL JE RO HO LM: 0.00979172147837;	AN FL JE RO HO LM: -0.215545454545;	AN FL JE RO HO LM: 11.0;	121	-0.2155	NA	NA	NA	NA
Histidine Degradation VI	Lost	miR-29e	AN HO FL JE RO LM: 0.00907615335254;	AN HO FL JE RO LM: -0.215333333333;	AN HO FL JE RO LM: 3.0;	9	-0.2153	NA	NA	NA	NA
Glioblastoma Multiforme Signaling	Lost	miR-449b	JE: 0.00669748319074;	JE: -0.212368421053;	JE: 17.0;	168	-0.2124	NA	NA	NA	NA
Erythropoietin Signaling	Lost	miR-449b	JE: 0.00368720280996;	JE: -0.211333333333;	JE: 11.0;	79	-0.2113	NA	NA	NA	NA
Agrin Interactions at Neuromuscular Junction	Lost	miR-29e	AN HO FL JE RO LM: 0.00880405992523;	AN HO FL JE RO LM: -0.207875;	AN HO FL JE RO LM: 8.0;	70	-0.2079	NA	NA	NA	NA
Regulation of Actin-based Motility by Rho	Lost	miR-449b	JE: 0.00256985304147;	JE: -0.207615384615;	JE: 13.0;	92	-0.2076	NA	NA	NA	NA

Supplementary table 9 – Ranked list of all significantly enriched pathways for miRNA targets for the different group

Pathway names	SNP type	unique miRNA	unique breeds: qval mean	unique breeds: score mean	unique breeds: number targets	Pathway total molecules	mean score	common miRNA	common breeds: qval	common breeds: score mean	common breeds: number targets
PPAR Signaling	Lost	miR-449b	JE: 0.00256985304147;	JE: -0.20525;	JE: 14.0;	106	-0.2053	NA	NA	NA	NA
Role of NANOG in Mammalian Embryonic Stem Cell Pluripotency	Lost	miR-29e	AN HO FL JE RO LM: 0.00664175038959;	AN HO FL JE RO LM: -0.204909090909;	AN HO FL JE RO LM: 11.0;	119	-0.2049	NA	NA	NA	NA
Fc Epsilon RI Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00228745106065;	AN HO FL JE RO LM: -0.200128205128;	AN HO FL JE RO LM: 12.2;	116	-0.2001	NA	NA	NA	NA
IL-2 Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00305631299445;	AN HO FL JE RO LM: -0.198625;	AN HO FL JE RO LM: 8.0;	61	-0.1986	NA	NA	NA	NA
Macropinocytosis Signaling	Lost	miR-449b	JE: 0.000400702124739;	JE: -0.198533333333;	JE: 14.0;	76	-0.1985	NA	NA	NA	NA
cAMP-mediated signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00907615335254;	AN HO FL JE RO LM: -0.197666666667;	AN HO FL JE RO LM: 15.0;	218	-0.1977	NA	NA	NA	NA
Oncostatin M Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.0013383613559;	AN HO FL JE RO LM: -0.197628571428;	AN HO FL JE RO LM: 7.4;	35	-0.1976	NA	NA	NA	NA
Acute Phase Response Signaling	Lost	miR-449b	JE: 0.00321739542629;	JE: -0.197545454545;	JE: 20.0;	181	-0.1975	NA	NA	NA	NA
Gαq Signaling	Gain	miR-1291	AN RO LI JE: 0.00881740736328;	AN RO LI JE: -0.196555555556;	AN RO LI JE: 16.0;	170	-0.1966	NA	NA	NA	NA
Glucocorticoid Receptor Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00468191151605;	AN HO FL JE RO LM: -0.195807422969;	AN HO FL JE RO LM: 19.6;	298	-0.1958	NA	NA	NA	NA
IGF-1 Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00132586521286;	AN HO FL JE RO LM: -0.195542307692;	AN HO FL JE RO LM: 12.4;	107	-0.1955	NA	NA	NA	NA
PI3K Signaling in B Lymphocytes	Lost	miR-449b	JE: 0.000638035524492;	JE: -0.19545;	JE: 19.0;	142	-0.1955	NA	NA	NA	NA
Virus Entry via Endocytic Pathways	Lost	miR-449b	JE: 0.00827718970084;	JE: -0.193615384615;	JE: 12.0;	100	-0.1936	NA	NA	NA	NA
RhoGDI Signaling	Lost	miR-449b	JE: 0.0021227793358;	JE: -0.193086956522;	JE: 21.0;	201	-0.1931	NA	NA	NA	NA

Supplementary table 9 – Ranked list of all significantly enriched pathways for miRNA targets for the different group

Pathway names	SNP type	unique miRNA	unique breeds: qval mean	unique breeds: score mean	unique breeds: number targets	Pathway total molecules	mean score	common miRNA	common breeds: qval	common breeds: score mean	common breeds: number targets
Ovarian Cancer Signaling	Lost	miR-29e	AN FL JE RO HO LM: 0.00903216526015;	AN FL JE RO HO LM: -0.188166666667;	AN FL JE RO HO LM: 12.0;	152	-0.1882	NA	NA	NA	NA
CNTF Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.0022749938165;	AN HO FL JE RO LM: -0.187272222222;	AN HO FL JE RO LM: 8.4;	57	-0.1873	NA	NA	NA	NA
Dopamine-DARPP32 Feedback in cAMP Signaling	Lost	miR-449b	JE: 0.00402807956136;	JE: -0.186909090909;	JE: 19.0;	186	-0.1869	NA	NA	NA	NA
Actin Cytoskeleton Signaling	Lost	miR-449b	JE: 0.00373925315428;	JE: -0.186740740741;	JE: 23.0;	242	-0.1867	NA	NA	NA	NA
D-myo-inositol (1,4,5,6)-Tetrakisphosphate Biosynthesis	Lost	miR-449b	JE: 0.00357604289522;	JE: -0.186333333333;	JE: 16.0;	144	-0.1863	NA	NA	NA	NA
D-myo-inositol (3,4,5,6)-tetrakisphosphate Biosynthesis	Lost	miR-449b	JE: 0.00357604289522;	JE: -0.186333333333;	JE: 16.0;	144	-0.1863	NA	NA	NA	NA
3-phosphoinositide Biosynthesis	Lost	miR-449b	JE: 0.00115828348553;	JE: -0.185863636364;	JE: 20.0;	181	-0.1859	NA	NA	NA	NA
IL-15 Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00478707990944;	AN HO FL JE RO LM: -0.185786111111;	AN HO FL JE RO LM: 8.4;	72	-0.1858	NA	NA	NA	NA
Mouse Embryonic Stem Cell Pluripotency	Lost	miR-29e	AN HO FL JE RO LM: 0.00281682250298;	AN HO FL JE RO LM: -0.183090909091;	AN HO FL JE RO LM: 11.0;	99	-0.1831	NA	NA	NA	NA
Axonal Guidance Signaling	Lost	miR-449b	JE: 0.00669748319074;	JE: -0.180952380952;	JE: 37.0;	486	-0.1810	NA	NA	NA	NA
Cardiac β-adrenergic Signaling	Lost	miR-449b	JE: 0.00357604289522;	JE: -0.180272727273;	JE: 17.0;	157	-0.1803	NA	NA	NA	NA
G-Protein Coupled Receptor Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00186230187501;	AN HO FL JE RO LM: -0.180186602871;	AN HO FL JE RO LM: 20.6;	275	-0.1802	NA	NA	NA	NA
VDR/RXR Activation	Gain	miR-449b	JE: 0.00336064746698;	JE: -0.179636363636;	JE: 11.0;	88	-0.1796	NA	NA	NA	NA
Regulation of IL-2 Expression in Activated and Anergic T	Lost	miR-449b	JE: 0.000762463915017;	JE: -0.179266666667;	JE: 14.0;	89	-0.1793	NA	NA	NA	NA

Supplementary table 9 – Ranked list of all significantly enriched pathways for miRNA targets for the different group

Pathway names	SNP type	unique miRNA	unique breeds: qval mean	unique breeds: score mean	unique breeds: number targets	Pathway total molecules	mean score	common miRNA	common breeds: qval	common breeds: score mean	common breeds: number targets
Lymphocytes											
Cdc42 Signaling	Lost	miR-449b	JE: 0.00676331014639;	JE: -0.177777777778;	JE: 18.0;	185	-0.1778	NA	NA	NA	NA
D-myo-inositol-5-phosphate Metabolism	Lost	miR-449b	JE: 0.00256985304147;	JE: -0.1776;	JE: 18.0;	162	-0.1776	NA	NA	NA	NA
Parkinsons Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00270250052335;	AN HO FL JE RO LM: -0.1752;	AN HO FL JE RO LM: 4.8;	19	-0.1752	NA	NA	NA	NA
Dendritic Cell Maturation	Gain	miR-29e	AN FL RO: 0.00228958343135;	AN FL RO: -0.175;	AN FL RO: 19.0;	211	-0.1750	NA	NA	NA	NA
Gαi Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00209320193001;	AN HO FL JE RO LM: -0.174538461538;	AN HO FL JE RO LM: 13.0;	134	-0.1745	NA	NA	NA	NA
IL-3 Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.0029497468924;	AN HO FL JE RO LM: -0.172666666667;	AN HO FL JE RO LM: 9.0;	70	-0.1727	NA	NA	NA	NA
Sertoli Cell-Sertoli Cell Junction Signaling	Lost	miR-449b	JE: 0.00434055138703;	JE: -0.172272727273;	JE: 20.0;	198	-0.1723	NA	NA	NA	NA
Endothelin-1 Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00149477443192;	AN HO FL JE RO LM: -0.172093333333;	AN HO FL JE RO LM: 16.8;	192	-0.1721	NA	NA	NA	NA
JAK/Stat Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00268501550813;	AN HO FL JE RO LM: -0.170066666667;	AN HO FL JE RO LM: 9.4;	71	-0.1701	NA	NA	NA	NA
G Beta Gamma Signaling	Lost	miR-449b	JE: 0.0037032167818;	JE: -0.1700625;	JE: 13.0;	121	-0.1701	NA	NA	NA	NA
Synaptic Long Term Depression	Lost	miR-29e	AN HO FL JE RO LM: 0.00578139245511;	AN HO FL JE RO LM: -0.16971474359;	AN HO FL JE RO LM: 12.5;	142	-0.1697	NA	NA	NA	NA
CD40 Signaling	Lost	miR-449b	JE: 0.00663932311561;	JE: -0.1685;	JE: 10.0;	70	-0.1685	NA	NA	NA	NA
FAK Signaling	Lost	miR-449b	JE: 0.00715290028021;	JE: -0.167666666667;	JE: 12.0;	106	-0.1677	NA	NA	NA	NA

Supplementary table 9 – Ranked list of all significantly enriched pathways for miRNA targets for the different group

Pathway names	SNP type	unique miRNA	unique breeds: qval mean	unique breeds: score mean	unique breeds: number targets	Pathway total molecules	mean score	common miRNA	common breeds: qval	common breeds: score mean	common breeds: number targets
Telomerase Signaling	Lost	miR-29e	RO: 0.00900109368382 ;	RO: -0.1654;	RO: 10.0;	99	-0.1654	NA	NA	NA	NA
UVA-Induced MAPK Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00336395799154 ;	AN HO FL JE RO LM: -0.1652;	AN HO FL JE RO LM: 10.0;	87	-0.1652	NA	NA	NA	NA
FGF Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00165131339423 ;	AN HO FL JE RO LM: -0.161454545455;	AN HO FL JE RO LM: 11.0;	94	-0.1615	NA	NA	NA	NA
CCR5 Signaling in Macrophages	Lost	miR-449b	JE: 0.00470783946615 ;	JE: -0.157846153846;	JE: 11.0;	97	-0.1578	NA	NA	NA	NA
iNOS Signaling	Lost	miR-449b	JE: 0.000997134174475;	JE: -0.1547;	JE: 10.0;	52	-0.1547	NA	NA	NA	NA
PEDF Signaling	Lost	miR-449b	JE: 0.00514792660237 ;	JE: -0.154333333333;	JE: 11.0;	79	-0.1543	NA	NA	NA	NA
Role of JAK2 in Hormone-like Cytokine Signaling	Lost	miR-29e	AN FL JE RO HO LM: 0.00508403095168 ;	AN FL JE RO HO LM: -0.153053571429;	AN FL JE RO HO LM: 6.25;	37	-0.1531	NA	NA	NA	NA
VEGF Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00558993648555 ;	AN HO FL JE RO LM: -0.1513;	AN HO FL JE RO LM: 10.0;	109	-0.1513	NA	NA	NA	NA
Toll-like Receptor Signaling	Lost	miR-449b	JE: 0.00357604289522 ;	JE: -0.1502;	JE: 10.0;	64	-0.1502	NA	NA	NA	NA
IL-1 Signaling	Lost	miR-449b	JE: 0.00109282397656 ;	JE: -0.149888888889;	JE: 15.0;	108	-0.1499	NA	NA	NA	NA
ILK Signaling	Lost	miR-2313-3p	RO JE FL LI HO: 0.00770822281302 ;	RO JE FL LI HO: -0.149142857143;	RO JE FL LI HO: 20.0;	204	-0.1491	NA	NA	NA	NA
Role of JAK1 and JAK3 in γc Cytokine Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00519230894729 ;	AN HO FL JE RO LM: -0.14825;	AN HO FL JE RO LM: 8.0;	62	-0.1483	NA	NA	NA	NA
Hepatic Cholestasis	Gain	miR-449b	JE: 0.00415263390142 ;	JE: -0.1478125;	JE: 15.0;	182	-0.1478	NA	NA	NA	NA
Pancreatic Adenocarcinoma Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00087299221342	AN HO FL JE RO LM: -0.147104761905;	AN HO FL JE RO LM: 14.2;	128	-0.1471	NA	NA	NA	NA

Supplementary table 9 – Ranked list of all significantly enriched pathways for miRNA targets for the different group

Pathway names	SNP type	unique miRNA	unique breeds: qval mean	unique breeds: score mean	unique breeds: number targets	Pathway total molecules	mean score	common miRNA	common breeds: qval	common breeds: score mean	common breeds: number targets
			6;								
RANK Signaling in Osteoclasts	Gain	miR-2313-3p	RO JE FL LI HO: 0.00742544243146;	RO JE FL LI HO: -0.144571428571;	RO JE FL LI HO: 13.0;	97	-0.1446	NA	NA	NA	NA
TNFR2 Signaling	Gain	miR-2313-3p	RO JE FL LI HO: 0.00755656086885;	RO JE FL LI HO: -0.139428571429;	RO JE FL LI HO: 7.0;	33	-0.1394	NA	NA	NA	NA
GM-CSF Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00500371392277;	AN HO FL JE RO LM: -0.138419444444;	AN HO FL JE RO LM: 8.4;	67	-0.1384	NA	NA	NA	NA
Chronic Myeloid Leukemia Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00734105053525;	AN HO FL JE RO LM: -0.135617777778;	AN HO FL JE RO LM: 9.8;	106	-0.1356	NA	NA	NA	NA
Gα12/13 Signaling	Gain	miR-2313-3p	RO JE FL LI HO: 0.00494289472992;	RO JE FL LI HO: -0.135529411765;	RO JE FL LI HO: 17.0;	126	-0.1355	NA	NA	NA	NA
Fatty Acid Activation	Gain	miR-2313-3p	RO JE FL LI HO: 0.00742544243146;	RO JE FL LI HO: -0.134;	RO JE FL LI HO: 5.0;	19	-0.1340	NA	NA	NA	NA
PTEN Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00451987948156;	AN HO FL JE RO LM: -0.13236969697;	AN HO FL JE RO LM: 11.8;	137	-0.1324	NA	NA	NA	NA
Angiopoietin Signaling	Lost	miR-29e	AN FL JE RO HO LM: 0.0084108076351;	AN FL JE RO HO LM: -0.130125;	AN FL JE RO HO LM: 8.0;	74	-0.1301	NA	NA	NA	NA
RAR Activation	Gain	miR-2313-3p	RO LI: 0.0092493639604;	RO LI: -0.12985;	RO LI: 19.0;	175	-0.1299	NA	NA	NA	NA
Inhibition of Angiogenesis by TSP1	Gain	miR-2419-5p	JE: 0.00307850224608;	JE: -0.127666666667;	JE: 9.0;	42	-0.1277	NA	NA	NA	NA
Fatty Acid β-oxidation I	Gain	miR-2313-3p	RO JE FL LI HO: 0.0025701288848;	RO JE FL LI HO: -0.123;	RO JE FL LI HO: 9.0;	45	-0.1230	NA	NA	NA	NA
Human Embryonic Stem Cell Pluripotency	Lost	miR-29e	AN HO FL JE RO LM: 0.00907615335254;	AN HO FL JE RO LM: -0.122363636364;	AN HO FL JE RO LM: 11.0;	133	-0.1224	NA	NA	NA	NA
S-adenosyl-L-methionine Biosynthesis	Gain	miR-2419-5p	JE: 0.00863954209813;	JE: -0.121333333333;	JE: 3.0;	8	-0.1213	NA	NA	NA	NA
Granzyme B Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00889457454632	AN HO FL JE RO LM: -0.11675;	AN HO FL JE RO LM: 4.0;	18	-0.1168	NA	NA	NA	NA

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Pathway names	SNP type	unique miRNA	unique breeds: qval mean	unique breeds: score mean	unique breeds: number targets	Pathway total molecules	mean score	common miRNA	common breeds: qval	common breeds: score mean	common breeds: number targets
			;								
γ-linolenate Biosynthesis II (Animals)	Gain	miR-2313-3p	RO JE FL LI HO: 0.00504061801792 ;	RO JE FL LI HO: -0.111714285714;	RO JE FL LI HO: 6.0;	24	-0.1117	NA	NA	NA	NA
Specific and common pathways											
Hepatic Fibrosis / Hepatic Stellate Cell Activation	Gain	miR-29e	AN RO: 0.00200526287143 ;	AN RO: -0.233956521739;	AN RO: 20.0;	196	-0.2340	miR-449b	JE: 1.82197720805e-05;	JE: -0.177125;	JE: 21.0;
UVC-Induced MAPK Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00711022980778 ;	AN HO FL JE RO LM: -0.231666666667;	AN HO FL JE RO LM: 6.0;	43	-0.2317	miR-449b	JE: 0.00221141573242;	JE: -0.1953;	JE: 9.0;
GNRH Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00174175894408 ;	AN HO FL JE RO LM: -0.230989010989;	AN HO FL JE RO LM: 13.8;	153	-0.2310	miR-449b	JE: 0.00530631370692;	JE: -0.175166666667;	JE: 16.0;
Chemokine Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00371311754222 ;	AN HO FL JE RO LM: -0.210444444444;	AN HO FL JE RO LM: 9.0;	75	-0.2104	miR-449b	JE: 0.000412928497243 ;	JE: -0.195;	JE: 14.0;
α-Adrenergic Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00587574196503 ;	AN HO FL JE RO LM: -0.204555555556;	AN HO FL JE RO LM: 9.0;	109	-0.2046	miR-449b	JE: 0.00148750678653;	JE: -0.175941176471;	JE: 14.0;
PDGF Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00480807727282 ;	AN HO FL JE RO LM: -0.2026;	AN HO FL JE RO LM: 9.4;	86	-0.2026	miR-449b miR-2313-3p	JE: 0.000715948257845 ; RO JE FL LI HO: 0.00167251702376;	JE: -0.217125; RO JE FL LI HO: -0.163789473684;	JE: 14.0; RO JE FL LI HO: 14.0;
Tight Junction Signaling	Lost	miR-449b	JE: 0.00118536374772 ;	JE: -0.188636363636;	JE: 20.0;	166	-0.1886	miR-2313-3p	RO: 0.00358357140658;	RO: -0.118285714286;	RO: 20.0;
STAT3 Pathway	Lost	miR-29e	AN HO FL JE RO LM: 0.00097691071256 2;	AN HO FL JE RO LM: -0.186272727273;	AN HO FL JE RO LM: 11.0;	80	-0.1863	miR-449b	JE: 0.00112006972776;	JE: -0.2014;	JE: 13.0;
SAPK/JNK Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00877271865686 ;	AN HO FL JE RO LM: -0.185555555556;	AN HO FL JE RO LM: 9.0;	105	-0.1856	miR-2313-3p	RO JE FL LI HO: 0.00208480110447;	RO JE FL LI HO: -0.1569375;	RO JE FL LI HO: 15.0;

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Pathway names	SNP type	unique miRNA	unique breeds: qval mean	unique breeds: score mean	unique breeds: number targets	Pathway total molecules	mean score	common miRNA	common breeds: qval	common breeds: score mean	common breeds: number targets
Breast Cancer Regulation by Stathmin1	Lost	miR-29e	AN HO FL JE RO LM: 0.00234664125876;	AN HO FL JE RO LM: -0.179529411765;	AN HO FL JE RO LM: 17.0;	214	-0.1795	miR-449b	JE: 0.000549009943751;	JE: -0.217233333333;	JE: 25.0;
Colorectal Cancer Metastasis Signaling	Lost	miR-29e miR-2313-3p	AN HO FL JE RO LM: 0.000871526899158; RO: 0.00906062239403;	AN HO FL JE RO LM: -0.180895256917; RO: -0.147083333333;	AN HO FL JE RO LM: 22.2; RO: 23.0;	268	-0.1640	miR-449b	JE: 0.00669748319074;	JE: -0.195037037037;	JE: 24.0;
CXCR4 Signaling	Lost	miR-29e miR-2313-3p	AN HO FL JE RO LM: 0.00406703187725; RO: 0.00910261311288;	AN HO FL JE RO LM: -0.184214285714; RO: -0.131705882353;	AN HO FL JE RO LM: 14.0; RO: 17.0;	174	-0.1580	miR-449b	JE: 0.00118536374772;	JE: -0.197545454545;	JE: 20.0;
HMGB1 Signaling	Lost	miR-2313-3p	JE FL LI HO: 0.00781627562011;	JE FL LI HO: -0.148923076923;	JE FL LI HO: 13.0;	109	-0.1489	miR-449b	JE: 0.000549009943751;	JE: -0.177647058824;	JE: 16.0;
Glioma Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00907615335254;	AN HO FL JE RO LM: -0.144111111111;	AN HO FL JE RO LM: 9.0;	113	-0.1441	miR-449b	JE: 0.000638035524492;	JE: -0.208444444444;	JE: 16.0;
Gain and Lost common pathways											
CD27 Signaling in Lymphocytes	Lost	miR-29e	AN HO FL JE RO LM: 0.00133255691406;	AN HO FL JE RO LM: -0.223386111111;	AN HO FL JE RO LM: 8.8;	58	-0.2234	NA	NA	NA	NA
GDNF Family Ligand-Receptor Interactions	Lost	miR-29e miR-449b	AN HO FL JE RO LM: 0.00889277690936; JE: 0.00981510168582;	AN HO FL JE RO LM: -0.241625; JE: -0.188583333333;	AN HO FL JE RO LM: 8.0; JE: 10.0;	76	-0.2151	NA	NA	NA	NA
HGF Signaling	Lost	miR-29e miR-449b	AN HO FL JE RO LM: 0.0017519924708; JE: 0.00367256551609;	AN HO FL JE RO LM: -0.2085; JE: -0.203266666667;	AN HO FL JE RO LM: 12.0; JE: 14.0;	111	-0.2059	NA	NA	NA	NA
Role of JAK family kinases in IL-6-type Cytokine Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.0013383613559;	AN HO FL JE RO LM: -0.203242857143;	AN HO FL JE RO LM: 6.4;	28	-0.2032	NA	NA	NA	NA
B Cell Receptor Signaling	Lost	miR-449b	JE: 0.00177620864155	JE: -0.200476190476;	JE: 20.0;	175	-0.2005	NA	NA	NA	NA

Supplementary table 9 – Ranked list of all significantly enriched pathways for miRNA targets for the different group

Pathway names	SNP type	unique miRNA	unique breeds: qval mean	unique breeds: score mean	unique breeds: number targets	Pathway total molecules	mean score	common miRNA	common breeds: qval	common breeds: score mean	common breeds: number targets
			;								
Phospholipase C Signaling	Lost	miR-449b	JE: 0.00321739542629 ;	JE: -0.200296296296;	JE: 25.0;	265	-0.2003	NA	NA	NA	NA
IL-8 Signaling	Gain	miR-449b	JE: 0.00415263390142 ;	JE: -0.197;	JE: 18.0;	225	-0.1970	NA	NA	NA	NA
EGF Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.0029497468924;	AN HO FL JE RO LM: -0.195875;	AN HO FL JE RO LM: 8.0;	64	-0.1959	NA	NA	NA	NA
Actin Nucleation by ARP-WASP Complex	Lost	miR-449b	JE: 0.00120118860006 ;	JE: -0.192833333333;	JE: 11.0;	67	-0.1928	NA	NA	NA	NA
CD28 Signaling in T Helper Cells	Lost	miR-449b	JE: 0.00992415662156 ;	JE: -0.192642857143;	JE: 14.0;	136	-0.1926	NA	NA	NA	NA
LPS-stimulated MAPK Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00195085842207 ;	AN HO FL JE RO LM: -0.184684444444;	AN HO FL JE RO LM: 9.8;	83	-0.1847	miR-449b	JE: 3.72368466018e-05;	JE: -0.187111111111;	JE: 17.0;
Ceramide Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00138609715356 ;	AN HO FL JE RO LM: -0.183909090909;	AN HO FL JE RO LM: 11.0;	90	-0.1839	NA	NA	NA	NA
Production of Nitric Oxide and Reactive Oxygen Species in Macrophages	Lost	miR-29e miR-449b miR-2313-3p	AN HO FL JE RO LM: 0.00108289425374 ; JE: 0.000138676506134; RO JE FL LI HO: 0.00690828934197 ;	AN HO FL JE RO LM: -0.212852192983; JE: -0.198464285714; RO JE FL LI HO: -0.140181818182;	AN HO FL JE RO LM: 17.8; JE: 26.0; RO JE FL LI HO: 20.0;	212	-0.1838	NA	NA	NA	NA
Tec Kinase Signaling	Gain	miR-1291	AN RO LI JE: 0.00881740736328 ;	AN RO LI JE: -0.183624183007;	AN RO LI JE: 16.5;	183	-0.1836	NA	NA	NA	NA
T Cell Receptor Signaling	Lost	miR-449b	JE: 0.001246875;	JE: -0.182941176471;	JE: 15.0;	108	-0.1829	NA	NA	NA	NA
NF-κB Signaling	Lost	miR-29e miR-449b	AN HO FL JE RO LM: 0.00208229333574 ; JE: 0.00669748319074 ;	AN HO FL JE RO LM: -0.170514285714; JE: -0.195181818182;	AN HO FL JE RO LM: 16.4; JE: 19.0;	181	-0.1828	NA	NA	NA	NA
Integrin Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00377662098137	AN HO FL JE RO LM: -0.182298039216;	AN HO FL JE RO LM: 16.6;	208	-0.1823	NA	NA	NA	NA

Supplementary table 9 – Ranked list of all significantly enriched pathways for miRNA targets for the different group

Pathway names	SNP type	unique miRNA	unique breeds: qval mean	unique breeds: score mean	unique breeds: number targets	Pathway total molecules	mean score	common miRNA	common breeds: qval	common breeds: score mean	common breeds: number targets
			;								
Phospholipase C Signaling	Gain	miR-1291	AN RO LI JE: 0.00881740736328 ;	AN RO LI JE: -0.181996153846;	AN RO LI JE: 21.5;	265	-0.1820	NA	NA	NA	NA
Integrin Signaling	Gain	miR-1291	AN RO LI JE: 0.00881740736328 ;	AN RO LI JE: -0.181761904762;	AN RO LI JE: 19.0;	208	-0.1818	NA	NA	NA	NA
3-phosphoinositide Degradation	Lost	miR-449b	JE: 0.00115828348553 ;	JE: -0.177318181818;	JE: 19.0;	162	-0.1773	NA	NA	NA	NA
Actin Nucleation by ARP-WASP Complex	Gain	miR-1291	AN RO LI JE: 0.00881740736328 ;	AN RO LI JE: -0.1767;	AN RO LI JE: 9.0;	67	-0.1767	NA	NA	NA	NA
Death Receptor Signaling	Lost	miR-29e	RO: 0.00616192458951 ;	RO: -0.1758;	RO: 10.0;	92	-0.1758	NA	NA	NA	NA
Molecular Mechanisms of Cancer	Lost	miR-29e	AN HO FL JE RO LM: 0.00143353998764 ;	AN HO FL JE RO LM: -0.171455270655;	AN HO FL JE RO LM: 26.4;	388	-0.1715	miR-449b miR-2313-3p	JE: 0.000138676506134 ; RO JE FL LI HO: 0.00186849040638;	JE: -0.18556097561; RO JE FL LI HO: -0.151131578947;	JE: 39.0; RO JE FL LI HO: 34.0;
Induction of Apoptosis by HIV1	Lost	miR-29e	AN HO FL JE RO LM: 0.00622933969302 ;	AN HO FL JE RO LM: -0.171271428571;	AN HO FL JE RO LM: 7.8;	67	-0.1713	NA	NA	NA	NA
Tec Kinase Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00418132522754 ;	AN HO FL JE RO LM: -0.170258095238;	AN HO FL JE RO LM: 14.2;	183	-0.1703	NA	NA	NA	NA
Death Receptor Signaling	Gain	miR-1291	RO LI: 0.00850389372901 ;	RO LI: -0.169166666667;	RO LI: 12.0;	92	-0.1692	NA	NA	NA	NA
3-phosphoinositide Degradation	Gain	miR-2313-3p	RO LI: 0.00824955928516 ;	RO LI: -0.165333333333;	RO LI: 17.0;	162	-0.1653	NA	NA	NA	NA
4-1BB Signaling in T Lymphocytes	Lost	miR-449b	JE: 0.00477069010128 ;	JE: -0.162285714286;	JE: 7.0;	36	-0.1623	NA	NA	NA	NA
GDNF Family Ligand-Receptor Interactions	Gain	miR-2313-3p	RO JE FL LI HO: 0.00800630194787 ;	RO JE FL LI HO: -0.162145454546;	RO JE FL LI HO: 11.0;	76	-0.1621	NA	NA	NA	NA
IL-8 Signaling	Lost	miR-29e	AN FL JE RO HO LM:	AN FL JE RO HO LM: -0.1574;	AN FL JE RO HO LM: 15.0;	225	-0.1574	NA	NA	NA	NA

Supplementary table 9 – Ranked list of all significantly enriched pathways for miRNA targets for the different group

Pathway names	SNP type	unique miRNA	unique breeds: qval mean	unique breeds: score mean	unique breeds: number targets	Pathway total molecules	mean score	common miRNA	common breeds: qval	common breeds: score mean	common breeds: number targets
			0.00819411820572 ;								
EGF Signaling	Gain	miR-2313-3p	RO JE FL LI HO: 0.00755656086885 ;	RO JE FL LI HO: -0.15396;	RO JE FL LI HO: 10.0;	64	-0.1540	NA	NA	NA	NA
B Cell Activating Factor Signaling	Gain	miR-2313-3p	RO JE FL LI HO: 0.00879712751218 ;	RO JE FL LI HO: -0.151625;	RO JE FL LI HO: 8.0;	45	-0.1516	NA	NA	NA	NA
April Mediated Signaling	Gain	miR-2313-3p	RO JE FL LI HO: 0.00800630194787 ;	RO JE FL LI HO: -0.151625;	RO JE FL LI HO: 8.0;	43	-0.1516	NA	NA	NA	NA
CD28 Signaling in T Helper Cells	Gain	miR-2313-3p	RO JE FL LI HO: 0.00835359323502 ;	RO JE FL LI HO: -0.149375;	RO JE FL LI HO: 15.0;	136	-0.1494	NA	NA	NA	NA
Induction of Apoptosis by HIV1	Gain	miR-2313-3p	RO JE FL LI HO: 0.00835359323502 ;	RO JE FL LI HO: -0.1463;	RO JE FL LI HO: 10.0;	67	-0.1463	NA	NA	NA	NA
CD27 Signaling in Lymphocytes	Gain	miR-2313-3p	RO JE FL LI HO: 0.00959688230653 ;	RO JE FL LI HO: -0.144333333333;	RO JE FL LI HO: 9.0;	58	-0.1443	NA	NA	NA	NA
HGF Signaling	Gain	miR-2313-3p	RO JE FL LI HO: 0.00509131292645 ;	RO JE FL LI HO: -0.142866666667;	RO JE FL LI HO: 15.0;	111	-0.1429	NA	NA	NA	NA
Molecular Mechanisms of Cancer	Gain	miR-1291 miR-2285t miR-2419-5p	AN RO LI JE: 0.00881740736328 ; JE RO FL: 9.18799736906e-05; JE: 0.00284728364722 ;	AN RO LI JE: -0.188083333334; JE RO FL: -0.107973544974; JE: -0.108181818182;	AN RO LI JE: 28.0; JE RO FL: 26.3333333333; JE: 36.0;	388	-0.1347	miR-449b miR-2313-3p	JE: 0.000122888981329 ; RO JE FL LI HO: 0.00799696754761;	JE: -0.1808; RO JE FL LI HO: -0.118931428572;	JE: 33.0; RO JE FL LI HO: 32.0;
4-1BB Signaling in T Lymphocytes	Gain	miR-2313-3p	RO JE FL LI HO: 0.008799797685;	RO JE FL LI HO: -0.133285714286;	RO JE FL LI HO: 7.0;	36	-0.1333	NA	NA	NA	NA
B Cell Activating Factor Signaling	Lost	miR-449b	JE: 0.00477069010128 ;	JE: -0.133;	JE: 8.0;	45	-0.1330	NA	NA	NA	NA
April Mediated Signaling	Lost	miR-449b	JE: 0.00372057622205 ;	JE: -0.133;	JE: 8.0;	43	-0.1330	NA	NA	NA	NA
T Cell Receptor Signaling	Gain	miR-2313-3p	RO JE FL LI HO: 0.00494289472992 ;	RO JE FL LI HO: -0.1305;	RO JE FL LI HO: 15.0;	108	-0.1305	NA	NA	NA	NA
B Cell Receptor Signaling	Gain	miR-2313-3p	RO LI: 0.0092493639604;	RO LI: -0.1282;	RO LI: 19.0;	175	-0.1282	NA	NA	NA	NA

Supplementary table 9 – Ranked list of all significantly enriched pathways for miRNA targets for the different group

Pathway names	SNP type	unique miRNA	unique breeds: qval mean	unique breeds: score mean	unique breeds: number targets	Pathway total molecules	mean score	common miRNA	common breeds: qval	common breeds: score mean	common breeds: number targets
Leukocyte Extravasation Signaling	Lost	miR-29e	AN HO FL JE RO LM: 0.00215654897882;	AN HO FL JE RO LM: -0.128092892157;	AN HO FL JE RO LM: 17.4;	210	-0.1281	miR-449b	JE: 0.00357604289522;	JE: -0.162636363636;	JE: 22.0;
NF-κB Signaling	Gain	miR-2284e	HO JE AN LI: 0.00209255681731;	HO JE AN LI: -0.127047619048;	HO JE AN LI: 18.0;	181	-0.1270	NA	NA	NA	NA
Role of JAK family kinases in IL-6-type Cytokine Signaling	Gain	miR-2419-5p	JE: 0.00284728364722;	JE: -0.1259;	JE: 8.0;	28	-0.1259	NA	NA	NA	NA
Ceramide Signaling	Gain	miR-2313-3p	RO JE FL LI HO: 0.00816230045076;	RO JE FL LI HO: -0.123692307692;	RO JE FL LI HO: 12.0;	90	-0.1237	NA	NA	NA	NA
LPS-stimulated MAPK Signaling	Gain	miR-2313-3p	RO JE FL LI HO: 0.00959378542824;	RO JE FL LI HO: -0.123545454545;	RO JE FL LI HO: 11.0;	83	-0.1235	miR-449b	JE: 0.00227300079475;	JE: -0.208181818182;	JE: 11.0;
Production of Nitric Oxide and Reactive Oxygen Species in Macrophages	Gain	miR-2419-5p	JE: 0.00516893104006;	JE: -0.118137931034;	JE: 22.0;	212	-0.1181				
Leukocyte Extravasation Signaling	Gain	miR-2313-3p	RO JE FL LI HO: 0.00494289472992;	RO JE FL LI HO: -0.112930434783;	RO JE FL LI HO: 23.4;	210	-0.1129	miR-449b	JE: 0.000989566306912;	JE: -0.166227272727;	JE: 21.0;

Supplementary table 10 – List of QTL terms enriched in miRNA variant targets

Traits name	SNP type	unique miRNA	common miRNA	unique breeds: qval mean	common breeds: qval
QTL for multiple miRNA					
Spleen percentage	Gain	miR-2425-3p miR-2284e	miR-2883	LM JE HO RO AN: 0.0; HO JE AN LM: 0.0;	AN,HO,RO: 0.0;
Blood creatinine level	Gain	miR-29e miR-2419-5p	miR-29d	AN HO LM FL JE RO: 0.0058; JE: 0.0099;	HO: 0.0058;
Meat color L*	Gain	miR-2425-3p miR-2284e	miR-2883	LM JE HO RO AN: 0.0; HO JE AN LM: 0.0;	AN,HO,RO: 0.0;
QTL for unique miRNA					
Longissimus muscle area	Lost	miR-2489	miR-940	HO: 0.0;	JE AN LM: 0.0;
Milk linoleic acid percentage	Lost	miR-1291	miR-2419-3p miR-940	AN RO LM JE: 0.0;	HO LM: 0.0; JE AN LM: 0.0;
Milk oleic acid percentage	Lost	miR-1291	miR-2419-3p miR-940 miR-2467-5p	AN RO LM JE: 0.0;	HO LM: 0.0; JE AN LM: 0.0; RO HO AN LM: 0.0;
Milk conjugated linoleic acid percentage	Lost	miR-1291	miR-2419-3p miR-940 miR-2467-5p	AN RO LM JE: 0.0;	HO LM: 0.0; JE AN LM: 0.0; RO HO AN LM: 0.0;
Dystocia (maternal)	Lost	miR-1291	miR-940	AN RO LM JE: 0.0;	JE AN LM: 0.0;
Milk stearic acid percentage	Lost	miR-1291	miR-2419-3p miR-940 miR-2467-5p	AN RO LM JE: 0.0;	HO LM: 0.0; JE AN LM: 0.0; RO HO AN LM: 0.0;
Milk myristic acid percentage	Lost	miR-1291	miR-2419-3p miR-940	AN RO LM JE: 0.0;	HO LM: 0.0; JE AN LM: 0.0;
Milk trans-vaccenic acid percentage	Lost	miR-1291	miR-2419-3p miR-940 miR-2467-5p	AN RO LM JE: 0.0;	HO LM: 0.0; JE AN LM: 0.0; RO HO AN LM: 0.0;
Twinning rate (EBV)	Gain	miR-2450c	miR-2313-3p miR-2467-5p	JE AN HO: 0.0;	RO JE LM FL HO: 0.0; RO HO AN LM: 0.0;
Specific QTL for unique miRNA					
Bone percentage	Gain	miR-2285m		HO RO JE LM AN FL: 0.0089;	
trans-15-C18:1 fatty acid content	Gain	miR-2883		AN,HO,RO: 0.0045;	
Milk yield (daughter deviation)	Gain	miR-2284e		HO JE AN LM: 0.0064;	
Post-weaning average daily gain	Lost	miR-2489		HO AN: 0.0;	

Supplementary table 10 – List of QTL terms enriched in miRNA variant targets

Traits name	SNP type	unique miRNA	common miRNA	unique breeds: qval mean	common breeds: qval
Body weight (weaning)	Lost	miR-1291		AN RO LM JE: 0.0;	
Beef flavor intensity	Gain	miR-2419-5p		JE: 0.0073;	
Myristic acid content	Lost	miR-1291		AN RO LM JE: 0.0;	
Milk casein index	Lost	miR-1291		AN RO LM JE: 0.0;	
Meat percentage	Gain	miR-2419-5p		JE: 0.0082;	
Angularity	Gain	miR-2419-5p		JE: 0.0099;	
Final packed red blood cell volume	Lost	miR-2489		HO AN: 0.0;	
Milk fat percentage (EBV)	Gain	miR-2285m		HO RO JE LM AN FL: 0.0089;	
Milk yield	Lost	miR-2489		HO: 0.0;	
Hoof pigmentation	Gain	miR-2883		AN,HO,RO: 0.0;	
Behavior	Lost	miR-2489		HO AN: 0.0;	
Milk alpha-casein percentage	Lost	miR-2489		HO: 0.0;	
Milk beta-lactoglobulin percentage	Lost	miR-1291		AN RO LM JE: 0.0;	
Muscle compression	Lost	miR-2489		HO: 0.0;	
Daughter pregnancy rate	Lost	miR-2489		HO: 0.0;	
Height (400 days)	Lost	miR-2489		HO AN: 0.0;	
Kidney pelvic and heart fat weight	Gain	miR-2285m		HO RO JE LM AN FL: 0.0005;	
Yield grade	Gain	miR-2284e		HO JE AN LM: 0.0075;	
Flight from feeder	Lost	miR-1291		AN RO LM JE: 0.0;	
Omega-6 to omega-3 fatty acid ratio	Lost	miR-1291		AN RO LM JE: 0.0;	
Marbling score	Gain	miR-2284e		HO JE AN LM: 0.0033;	
Meat-to-bone ratio	Gain	miR-2285m		HO RO JE LM AN FL: 0.0027;	
Fat thickness at the 12th rib	Gain	miR-2883		AN,HO,RO: 0.0045;	
Meat weight	Lost	miR-2489		HO AN: 0.0;	
Oleic/stearic acid ratio	Gain	miR-2419-5p		JE: 0.0082;	
Common QTL for specific miRNA					
Calpain activity	Lost	miR-2489 miR-1291	miR-2284y miR-29e miR-29d miR-449b miR-2418 miR-2467-5p	HO AN: 0.0; AN RO LM JE: 0.0;	JE HO: 0.0; AN HO LM FL JE RO: 0.0; HO: 0.0; JE: 0.0; LM JE HO: 0.0; RO HO AN LM: 0.0;

Supplementary table 10 – List of QTL terms enriched in miRNA variant targets

Traits name	SNP type	unique miRNA	common miRNA	unique breeds: qval mean	common breeds: qval
Calpain activity	Gain	miR-2285m	miR-2284y miR-29e miR-29d miR-449b miR-2418 miR-2467-5p	HO RO JE LM AN FL: 0.0;	JE HO: 0.0; AN HO LM FL JE RO: 0.0; HO: 0.0; JE: 0.0; LM JE HO: 0.0; RO HO AN LM: 0.0;
Conformation score	Lost	miR-449b miR-2425-3p	miR-29d	JE: 0.0; LM JE HO RO AN: 0.0;	HO: 0.0;
Conformation score	Gain	miR-29e miR-1291 miR-2313-3p miR-2369	miR-29d	AN HO LM FL JE RO: 0.0; AN RO LM JE: 0.0; RO JE LM FL HO: 0.0; HO AN: 0.0;	HO: 0.0;
Ovulation rate	Lost	miR-1291	miR-2419-3p miR-29d miR-940	AN RO LM JE: 0.0;	HO LM: 0.0; HO: 0.0; JE AN LM: 0.0;
Ovulation rate	Gain	miR-29e	miR-2419-3p miR-29d miR-940	AN HO LM FL JE RO: 0.0048;	HO LM: 3.9e-06; HO: 0.0049; JE AN LM: 9.3e-05;

Supplementary table 11 – List of all alleles frequencies for the 7 miRNAs genotyped

Breeds	miR-1179		miR-1814b		miR-2284s		mir-2313-3p		mir-2329-5p		mir-2419-3p		mir-29e	
	sum	20874	**sum**	20858	**sum**	20795	**sum**	20872	**sum**	20802	**sum**	20634	**sum**	20652
	GG	0.43	**GG**	0.10	**TT**	0.07	**CC**	0.41	**AA**	0.45	**TT**	0.51	**TT**	0.05
All	**AG**	0.44	**GA**	0.40	**TG**	0.33	**CT**	0.41	**AC**	0.43	**CT**	0.39	**TC**	0.29
	AA	0.13	**AA**	0.51	**GG**	0.60	**TT**	0.17	**CC**	0.12	**CC**	0.10	**CC**	0.66
	pval	1.25E-05	**pval**	4.62E-11	**pval**	0.00E+00	**pval**	0.00E+00	**pval**	3.44E-06	**pval**	0.00E+00	**pval**	0.00E+00
	sum	1288	**sum**	1288	**sum**	1270	**sum**	1288	**sum**	1280	**sum**	1260	**sum**	1280
	GG	0.53	**GG**	0.23	**TT**	0.18	**CC**	0.80	**AA**	0.27	**TT**	0.51	**TT**	0.02
AAN	**AG**	0.41	**GA**	0.49	**TG**	0.46	**CT**	0.18	**AC**	0.50	**CT**	0.40	**TC**	0.17
	AA	0.06	**AA**	0.28	**GG**	0.36	**TT**	0.03	**CC**	0.23	**CC**	0.09	**CC**	0.81
	pval	8.42E-02	**pval**	4.70E-01	**pval**	7.20E-02	**pval**	5.22E-07	**pval**	7.66E-01	**pval**	1.81E-01	**pval**	6.24E-03
	sum	6	**sum**	6	**sum**	5	**sum**	6	**sum**	6	**sum**	6	**sum**	6
	GG	0.50	**GG**	0.00	**TT**	0.00	**CC**	0.17	**AA**	0.00	**TT**	0.67	**TT**	0.00
BAQ	**AG**	0.17	**GA**	0.17	**TG**	0.40	**CT**	0.33	**AC**	0.83	**CT**	0.33	**TC**	0.17
	AA	0.33	**AA**	0.83	**GG**	0.60	**TT**	0.50	**CC**	0.17	**CC**	0.00	**CC**	0.83
	pval	1.07E-01	**pval**	8.24E-01	**pval**	5.76E-01	**pval**	5.40E-01	**pval**	8.02E-02	**pval**	6.24E-01	**pval**	8.24E-01
	sum	152	**sum**	152	**sum**	151	**sum**	152	**sum**	152	**sum**	151	**sum**	152
	GG	0.38	**GG**	0.05	**TT**	0.17	**CC**	0.18	**AA**	0.60	**TT**	0.30	**TT**	0.02
BBL	**AG**	0.49	**GA**	0.28	**TG**	0.56	**CT**	0.48	**AC**	0.34	**CT**	0.54	**TC**	0.26
	AA	0.13	**AA**	0.66	**GG**	0.26	**TT**	0.34	**CC**	0.06	**CC**	0.16	**CC**	0.72
	pval	5.46E-01	**pval**	2.38E-01	**pval**	9.57E-02	**pval**	8.75E-01	**pval**	6.67E-01	**pval**	1.86E-01	**pval**	8.32E-01
	sum	3253	**sum**	3250	**sum**	3245	**sum**	3253	**sum**	3241	**sum**	3224	**sum**	3244
	GG	0.57	**GG**	0.05	**TT**	0.09	**CC**	0.18	**AA**	0.35	**TT**	0.64	**TT**	0.00
CHA	**AG**	0.37	**GA**	0.34	**TG**	0.42	**CT**	0.46	**AC**	0.49	**CT**	0.31	**TC**	0.07
	AA	0.06	**AA**	0.62	**GG**	0.49	**TT**	0.36	**CC**	0.16	**CC**	0.04	**CC**	0.92
	pval	9.70E-01	**pval**	7.04E-01	**pval**	6.85E-01	**pval**	1.61E-02	**pval**	4.62E-01	**pval**	3.23E-01	**pval**	1.09E-05
	sum	387	**sum**	387	**sum**	386	**sum**	387	**sum**	387	**sum**	384	**sum**	386
	GG	0.55	**GG**	0.06	**TT**	0.08	**CC**	0.14	**AA**	0.30	**TT**	0.62	**TT**	0.00
CHL	**AG**	0.40	**GA**	0.34	**TG**	0.42	**CT**	0.49	**AC**	0.52	**CT**	0.34	**TC**	0.03
	AA	0.05	**AA**	0.60	**GG**	0.50	**TT**	0.36	**CC**	0.19	**CC**	0.04	**CC**	0.97
	pval	2.18E-01	**pval**	6.12E-01	**pval**	5.84E-01	**pval**	4.80E-01	**pval**	3.60E-01	**pval**	8.77E-01	**pval**	7.36E-01
	sum	1	**sum**	1	**sum**	1	**sum**	1	**sum**	1	**sum**	1	**sum**	1
ELA	**GG**	0.00	**GG**	1.00	**TT**	0.00	**CC**	0.00	**AA**	0.00	**TT**	0.00	**TT**	0.00
	AG	1.00	**GA**	0.00	**TG**	0.00	**CT**	1.00	**AC**	1.00	**CT**	1.00	**TC**	0.00
	AA	0.00	**AA**	0.00	**GG**	1.00	**TT**	0.00	**CC**	0.00	**CC**	0.00	**CC**	1.00

Breeds	miR-1179		miR-1814b		miR-2284s		mir-2313-3p		mir-2329-5p		mir-2419-3p		mir-29e	
	pval	3.17E-01	pval	1.00E+00	pval	1.00E+00	pval	3.17E-01	pval	3.17E-01	pval	3.17E-01	pval	1.00E+00
	sum	1	sum	1	sum	1	sum	1	sum	1	sum	1	sum	1
	GG	1.00	GG	0.00	TT	0.00	CC	0.00	AA	1.00	TT	1.00	TT	0.00
FR2	AG	0.00	GA	0.00	TG	0.00	CT	1.00	AC	0.00	CT	0.00	TC	0.00
	AA	0.00	AA	1.00	GG	1.00	TT	0.00	CC	0.00	CC	0.00	CC	1.00
	pval	1.00E+00	pval	1.00E+00	pval	1.00E+00	pval	3.17E-01	pval	1.00E+00	pval	1.00E+00	pval	1.00E+00
	sum	1	sum	1	sum	1	sum	1	sum	1	sum	1	sum	1
	GG	1.00	GG	0.00	TT	0.00	CC	0.00	AA	0.00	TT	1.00	TT	0.00
FR7	AG	0.00	GA	0.00	TG	1.00	CT	1.00	AC	1.00	CT	0.00	TC	0.00
	AA	0.00	AA	1.00	GG	0.00	TT	0.00	CC	0.00	CC	0.00	CC	1.00
	pval	1.00E+00	pval	1.00E+00	pval	3.17E-01	pval	3.17E-01	pval	3.17E-01	pval	1.00E+00	pval	1.00E+00
	sum	1290	sum	1290	sum	1283	sum	1289	sum	1284	sum	1279	sum	1284
	GG	0.72	GG	0.14	TT	0.08	CC	0.55	AA	0.50	TT	0.15	TT	0.05
HER	AG	0.25	GA	0.48	TG	0.43	CT	0.38	AC	0.41	CT	0.47	TC	0.34
	AA	0.02	AA	0.39	GG	0.50	TT	0.07	CC	0.09	CC	0.38	CC	0.60
	pval	9.25E-01	pval	5.06E-01	pval	1.94E-01	pval	6.43E-01	pval	5.52E-01	pval	7.81E-01	pval	5.03E-01
	sum	1	sum	1	sum	1	sum	1	sum	1	sum	1	sum	1
	GG	1.00	GG	0.00	TT	0.00	CC	0.00	AA	1.00	TT	0.00	TT	0.00
HFD	AG	0.00	GA	0.00	TG	1.00	CT	1.00	AC	0.00	CT	0.00	TC	1.00
	AA	0.00	AA	1.00	GG	0.00	TT	0.00	CC	0.00	CC	1.00	CC	0.00
	pval	1.00E+00	pval	1.00E+00	pval	3.17E-01	pval	3.17E-01	pval	1.00E+00	pval	1.00E+00	pval	3.17E-01
	sum	9813	sum	9803	sum	9792	sum	9812	sum	9779	sum	9712	sum	9645
	GG	0.33	GG	0.11	TT	0.02	CC	0.51	AA	0.55	TT	0.47	TT	0.08
HOL	AG	0.49	GA	0.44	TG	0.21	CT	0.40	AC	0.38	CT	0.43	TC	0.40
	AA	0.18	AA	0.44	GG	0.77	TT	0.09	CC	0.07	CC	0.11	CC	0.51
	pval	8.53E-01	pval	2.94E-01	pval	6.92E-06	pval	3.67E-04	pval	1.27E-01	pval	9.32E-02	pval	1.70E-01
	sum	3833	sum	3831	sum	3818	sum	3833	sum	3823	sum	3780	sum	3809
	GG	0.40	GG	0.05	TT	0.15	CC	0.24	AA	0.32	TT	0.59	TT	0.02
LIM	AG	0.47	GA	0.33	TG	0.47	CT	0.49	AC	0.50	CT	0.36	TC	0.23
	AA	0.13	AA	0.62	GG	0.39	TT	0.27	CC	0.18	CC	0.06	CC	0.74
	pval	5.73E-01	pval	7.31E-02	pval	5.28E-01	pval	1.11E-01	pval	3.08E-01	pval	6.72E-01	pval	5.15E-01
	sum	1	sum	1	sum	1	sum	1	sum	1	sum	1	sum	1
	GG	0.00	GG	0.00	TT	0.00	CC	1.00	AA	1.00	TT	1.00	TT	0.00
MDJ	AG	0.00	GA	0.00	TG	1.00	CT	0.00	AC	0.00	CT	0.00	TC	1.00
	AA	1.00	AA	1.00	GG	0.00	TT	0.00	CC	0.00	CC	0.00	CC	0.00
	pval	1.00E+00	pval	1.00E+00	pval	3.17E-01	pval	1.00E+00	pval	1.00E+00	pval	1.00E+00	pval	3.17E-01

Supplementary Table 11 – List of all alleles frequencies for the 7 miRNAs genotyped

Supplementary Table 11 – List of all alleles frequencies for the 7 miRNAs genotyped

Breeds	miR-1179		miR-1814b		miR-2284s		mir-2313-3p		mir-2329-5p		mir-2419-3p		mir-29e	
MSH	**sum**	5	**sum**	5	**sum**	5	**sum**	5	**sum**	4	**sum**	5	**sum**	5
	GG	0.00	**GG**	0.00	**TT**	0.40	**CC**	0.20	**AA**	0.50	**TT**	0.20	**TT**	0.00
	AG	0.80	**GA**	0.40	**TG**	0.40	**CT**	0.60	**AC**	0.50	**CT**	0.40	**TC**	0.00
	AA	0.20	**AA**	0.60	**GG**	0.20	**TT**	0.20	**CC**	0.00	**CC**	0.40	**CC**	1.00
	pval	1.36E-01	**pval**	5.76E-01	**pval**	7.09E-01	**pval**	6.55E-01	**pval**	5.05E-01	**pval**	7.09E-01	**pval**	1.00E+00
PAR	**sum**	75	**sum**	75	**sum**	75	**sum**	75	**sum**	75	**sum**	74	**sum**	75
	GG	0.75	**GG**	0.04	**TT**	0.04	**CC**	0.43	**AA**	0.15	**TT**	0.74	**TT**	0.00
	AG	0.17	**GA**	0.48	**TG**	0.36	**CT**	0.43	**AC**	0.36	**CT**	0.22	**TC**	0.16
	AA	0.08	**AA**	0.48	**GG**	0.60	**TT**	0.15	**CC**	0.49	**CC**	0.04	**CC**	0.84
	pval	1.13E-03	**pval**	9.90E-02	**pval**	6.72E-01	**pval**	5.21E-01	**pval**	1.16E-01	**pval**	2.10E-01	**pval**	4.51E-01
PIE	**sum**	2	**sum**	2	**sum**	2	**sum**	2	**sum**	2	**sum**	2	**sum**	2
	GG	0.00	**GG**	0.00	**TT**	0.50	**CC**	0.00	**AA**	0.50	**TT**	0.50	**TT**	0.00
	AG	0.50	**GA**	0.50	**TG**	0.50	**CT**	1.00	**AC**	0.00	**CT**	0.50	**TC**	0.00
	AA	0.50	**AA**	0.50	**GG**	0.00	**TT**	0.00	**CC**	0.50	**CC**	0.00	**CC**	1.00
	pval	6.37E-01	**pval**	6.37E-01	**pval**	6.37E-01	**pval**	1.57E-01	**pval**	1.57E-01	**pval**	6.37E-01	**pval**	1.00E+00
RDP	**sum**	1	**sum**	1	**sum**	1	**sum**	1	**sum**	1	**sum**	1	**sum**	1
	GG	0.00	**GG**	0.00	**TT**	0.00	**CC**	0.00	**AA**	0.00	**TT**	0.00	**TT**	0.00
	AG	1.00	**GA**	0.00	**TG**	1.00	**CT**	1.00	**AC**	1.00	**CT**	1.00	**TC**	0.00
	AA	0.00	**AA**	1.00	**GG**	0.00	**TT**	0.00	**CC**	0.00	**CC**	0.00	**CC**	1.00
	pval	3.17E-01	**pval**	1.00E+00	**pval**	3.17E-01	**pval**	3.17E-01	**pval**	3.17E-01	**pval**	3.17E-01	**pval**	1.00E+00
SAL	**sum**	12	**sum**	12	**sum**	12	**sum**	12	**sum**	12	**sum**	11	**sum**	12
	GG	0.58	**GG**	0.08	**TT**	0.08	**CC**	0.33	**AA**	0.50	**TT**	0.36	**TT**	0.00
	AG	0.33	**GA**	0.50	**TG**	0.67	**CT**	0.67	**AC**	0.50	**CT**	0.55	**TC**	0.08
	AA	0.08	**AA**	0.42	**GG**	0.25	**TT**	0.00	**CC**	0.00	**CC**	0.09	**CC**	0.92
	pval	7.00E-01	**pval**	6.65E-01	**pval**	1.98E-01	**pval**	8.33E-02	**pval**	2.48E-01	**pval**	5.54E-01	**pval**	8.80E-01
SIM	**sum**	752	**sum**	751	**sum**	745	**sum**	752	**sum**	751	**sum**	740	**sum**	746
	GG	0.49	**GG**	0.03	**TT**	0.08	**CC**	0.25	**AA**	0.45	**TT**	0.61	**TT**	0.05
	AG	0.42	**GA**	0.16	**TG**	0.36	**CT**	0.47	**AC**	0.44	**CT**	0.32	**TC**	0.39
	AA	0.09	**AA**	0.81	**GG**	0.56	**TT**	0.28	**CC**	0.11	**CC**	0.07	**CC**	0.56
	pval	7.64E-01	**pval**	1.94E-05	**pval**	5.63E-02	**pval**	1.16E-01	**pval**	9.86E-01	**pval**	3.86E-03	**pval**	1.88E-01

Chapter 4: 3' UTR variants in cattle breeds modify microRNA binding sites and display association with milk production traits

Supplementary table 12 – List of polymorphic 3' UTR ranked by their miRNA binding score

The list contains each gene having polymorphism in their 3' UTR creating a modification in the miRNA binding sites for each breed. The genes are ranked based on the overall score given by each polymorphic miRNA binding site identified.

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000040331_BTLM	GIMAP1	39	21	-6.858	-13.06285714	Increase:9 Decrease:1 Gain:17 Lost:12
ENSBTAG00000007194_BTHO	GUCA2B	5	1	-1.04	-5.2	Gain:5
ENSBTAG00000007194_BTLM	GUCA2B	5	1	-1.04	-5.2	Gain:5
ENSBTAG00000040331_BTRO	GIMAP1	27	26	-4.711	-4.892192308	Increase:8 Decrease:1 Gain:10 Lost:8
ENSBTAG00000040331_BTAN	GIMAP1	27	27	-4.827	-4.827	Increase:8 Gain:12 Lost:7
ENSBTAG00000004517_BTJE	TARBP1	14	14	-2.27	-2.27	Gain:10 Lost:4
ENSBTAG00000005450_BTLM	CYP3A5	5	3	-1.337	-2.228333333	Gain:5
ENSBTAG00000012721_BTHO	HOGA1	13	17	-2.74	-2.095294118	Gain:4 Lost:9
ENSBTAG00000039028_BTLM	PI3	10	7	-1.382	-1.974285714	Gain:7 Lost:3
ENSBTAG00000039928_BTFL		16	31	-3.555	-1.83483871	Increase:1 Gain:10 Lost:5
ENSBTAG00000011754_BTLM	LAMTOR2	5	5	-1.524	-1.524	Increase:1 Gain:4
ENSBTAG00000007117_BTAN	CTC1	11	19	-2.585	-1.496578947	Gain:10 Lost:1
ENSBTAG00000007117_BTLM	CTC1	11	19	-2.585	-1.496578947	Gain:10 Lost:1
ENSBTAG00000012418_BTJE	MED23	2	1	-0.678	-1.356	Increase:1 Gain:1

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000039928_BTAN		16	32	-2.627	-1.3135	Increase:1 Gain:10 Lost:5
ENSBTAG00000014335_BTJE	CYP17A1	8	13	-2.087	-1.284307692	Decrease:1 Gain:5 Lost:2
ENSBTAG00000007117_BTHO	CTC1	10	19	-2.395	-1.260526316	Gain:9 Lost:1
ENSBTAG00000014335_BTAN	CYP17A1	8	14	-2.087	-1.192571429	Decrease:1 Gain:5 Lost:2
ENSBTAG00000014335_BTHO	CYP17A1	8	14	-2.087	-1.192571429	Decrease:1 Gain:5 Lost:2
ENSBTAG00000014335_BTLM	CYP17A1	8	14	-2.087	-1.192571429	Decrease:1 Gain:5 Lost:2
ENSBTAG00000046375_BTLM	PI3	8	11	-1.508	-1.096727273	Gain:7 Lost:1
ENSBTAG00000031725_BTLM	LOC517833	12	35	-3.177	-1.089257143	Decrease:1 Gain:9 Lost:2
ENSBTAG00000010548_BTJE	LRRC6	11	15	-1.409	-1.033266667	Gain:3 Lost:8
ENSBTAG00000005759_BTJE	PLA2G2A	9	22	-2.109	-0.862772727	Increase:3 Gain:4 Lost:2
ENSBTAG00000005759_BTHO	PLA2G2A	9	23	-2.015	-0.788478261	Increase:3 Gain:5 Lost:1
ENSBTAG00000012149_BTHO	HOXC8	2	1	-0.393	-0.786	Gain:2
ENSBTAG00000035012_BTRO	LOC786811	6	12	-1.484	-0.742	Gain:2 Lost:4
ENSBTAG00000039928_BTRO		12	36	-2.215	-0.738333333	Gain:10 Lost:2
ENSBTAG00000003898_BTAN	HMGCS2	12	34	-1.946	-0.686823529	Decrease:2 Gain:1 Lost:9
ENSBTAG00000003898_BTJE	HMGCS2	12	35	-1.946	-0.6672	Decrease:2 Gain:1 Lost:9
ENSBTAG00000003898_BTLM	HMGCS2	12	35	-1.946	-0.6672	Decrease:2 Gain:1 Lost:9
ENSBTAG00000010225_BTLM	POLR2D	11	31	-1.824	-0.647225806	Decrease:1 Lost:10

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000003898_BTHO	HMGCS2	11	35	-1.891	-0.594314286	Decrease:2 Lost:9
ENSBTAG00000005759_BTLM	PLA2G2A	7	21	-1.76	-0.586666667	Increase:3 Gain:2 Lost:2
ENSBTAG00000004595_BTJE	GML	4	7	-1.004	-0.573714286	Lost:4
ENSBTAG00000014426_BTAN	PRKAG1	9	34	-2.085	-0.551911765	Increase:2 Gain:7
ENSBTAG00000025663_BTLM	RNASE1	10	27	-1.473	-0.545555556	Increase:3 Decrease:4 Gain:1 Lost:2
ENSBTAG00000045588_BTLM	BST2B	23	140	-3.251	-0.534092857	Increase:2 Decrease:6 Gain:13 Lost:2
ENSBTAG00000047141_BTJE	PAG7	3	6	-1.047	-0.5235	Increase:2 Lost:1
ENSBTAG00000040331_BTHO	GIMAP1	9	36	-1.901	-0.47525	Decrease:1 Gain:3 Lost:5
ENSBTAG00000038706_BTJE	MT1E	7	15	-0.935	-0.436333333	Gain:7
ENSBTAG00000024772_BTLM	TRIP6	5	14	-1.214	-0.433571429	Gain:3 Lost:2
ENSBTAG00000015004_BTJE	TBCB	4	5	-0.531	-0.4248	Gain:1 Lost:3
ENSBTAG00000039813_BTLM	LOC100125946	3	4	-0.552	-0.414	Lost:3
ENSBTAG00000011559_BTLM	RPL7A	2	1	-0.196	-0.392	Lost:2
ENSBTAG00000046433_BTJE		7	15	-0.834	-0.3892	Gain:3 Lost:4
ENSBTAG00000021939_BTHO	ELAC2	14	70	-1.889	-0.3778	Increase:2 Decrease:6 Gain:2 Lost:3
ENSBTAG00000019494_BTJE	RPL10A	2	1	-0.18	-0.36	Increase:2

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000008946_BTAN	CAPN13	10	54	-1.936	-0.358518519	Decrease:1 Gain:6 Lost:3
ENSBTAG00000005083_BTJE	TULP4	4	7	-0.62	-0.354285714	Lost:4
ENSBTAG00000038706_BTHO	MT1E	6	14	-0.818	-0.350571429	Gain:6
ENSBTAG00000032997_BTJE	LOR	6	24	-1.385	-0.34625	Gain:6
ENSBTAG00000015009_BTAN	C25H7orf59	5	11	-0.738	-0.335454545	Gain:2 Lost:3
ENSBTAG00000039093_BTHO	LOC100295614	4	9	-0.747	-0.332	Increase:2 Gain:2
ENSBTAG00000004894_BTLM	GIMAP5	8	34	-1.402	-0.329882353	Gain:4 Lost:4
ENSBTAG00000039037_BTJE	SERPINB4	8	24	-0.924	-0.308	Gain:2 Lost:6
ENSBTAG00000039093_BTLM	LOC100295614	3	7	-0.682	-0.292285714	Gain:1 Lost:2
ENSBTAG00000039928_BTLM		8	35	-1.18	-0.269714286	Gain:5 Lost:3
ENSBTAG00000035012_BTAN	LOC786811	4	13	-0.869	-0.267384615	Gain:1 Lost:3
ENSBTAG00000000406_BTAN	GPATCH4	6	21	-0.831	-0.237428571	Increase:1 Gain:5
ENSBTAG00000008747_BTLM	DCXR	10	72	-1.63	-0.226388889	Decrease:2 Gain:4 Lost:4
ENSBTAG00000008747_BTJE	DCXR	10	74	-1.595	-0.215540541	Increase:1 Decrease:2 Gain:4 Lost:3
ENSBTAG00000006304_BTJE	PAG6	3	11	-0.777	-0.211909091	Increase:3
ENSBTAG00000007530_BTLM	TRIM10	7	26	-0.786	-0.211615385	Gain:6 Lost:1
ENSBTAG00000021939_BTLM	ELAC2	10	74	-1.55	-0.209459459	Increase:2 Decrease:3 Gain:2 Lost:3

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000006405_BTJE	PALB2	6	24	-0.819	-0.20475	Increase:1 Gain:4 Lost:1
ENSBTAG00000047880_BTHO		7	47	-1.356	-0.201957447	Decrease:2 Gain:1 Lost:4
ENSBTAG00000019082_BTLM	RAD51D	12	64	-1.028	-0.19275	Decrease:1 Gain:9 Lost:2
ENSBTAG00000021939_BTJE	ELAC2	9	76	-1.545	-0.182960526	Increase:2 Decrease:3 Gain:3 Lost:1
ENSBTAG00000035012_BTLM	LOC786811	3	13	-0.774	-0.178615385	Lost:3
ENSBTAG00000017056_BTLM	PKLR	11	113	-1.811	-0.176292035	Decrease:3 Gain:6 Lost:2
ENSBTAG00000039813_BTHO	LOC100125946	2	5	-0.423	-0.1692	Lost:2
ENSBTAG00000039813_BTJE	LOC100125946	2	5	-0.423	-0.1692	Lost:2
ENSBTAG00000039928_BTHO		7	36	-0.818	-0.159055556	Gain:5 Lost:2
ENSBTAG00000039093_BTAN	LOC100295614	3	9	-0.444	-0.148	Increase:2 Gain:1
ENSBTAG00000032819_BTJE		4	23	-0.847	-0.147304348	Decrease:1 Gain:1 Lost:2
ENSBTAG00000032819_BTLM		4	23	-0.847	-0.147304348	Gain:1 Lost:3
ENSBTAG00000002718_BTLM	TINF2	4	19	-0.659	-0.138736842	Gain:3 Lost:1
ENSBTAG00000034949_BTLM	LOC524236	2	8	-0.546	-0.1365	Gain:1 Lost:1
ENSBTAG00000034674_BTHO	CLCNKA	4	26	-0.884	-0.136	Gain:2 Lost:2
ENSBTAG00000021721_BTAN	CDSN	6	46	-1.039	-0.135521739	Decrease:2 Gain:3 Lost:1

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000014649_BTLM	CPT2	3	19	-0.841	-0.132789474	Gain:2 Lost:1
ENSBTAG00000016121_BTHO	KRT75	5	43	-1.135	-0.131976744	Gain:1 Lost:4
ENSBTAG00000039012_BTAN	MFSD6L	4	27	-0.886	-0.131259259	Gain:3 Lost:1
ENSBTAG00000002300_BTLM	DCT	3	20	-0.874	-0.1311	Gain:2 Lost:1
ENSBTAG00000034674_BTAN	CLCNKA	4	27	-0.884	-0.130962963	Gain:2 Lost:2
ENSBTAG00000008321_BTAN	RNF8	5	25	-0.654	-0.1308	Lost:5
ENSBTAG00000006052_BTLM	PLCD3	7	36	-0.669	-0.130083333	Lost:7
ENSBTAG00000045588_BTAN	BST2B	12	144	-1.55	-0.129166667	Increase:1 Decrease:4 Gain:7
ENSBTAG00000002042_BTAN	RIC8A	7	57	-1.048	-0.128701754	Gain:1 Lost:6
ENSBTAG00000002042_BTLM	RIC8A	7	57	-1.048	-0.128701754	Gain:1 Lost:6
ENSBTAG00000039928_BTJE		5	38	-0.977	-0.128552632	Gain:5
ENSBTAG00000008321_BTHO	RNF8	5	26	-0.654	-0.125769231	Lost:5
ENSBTAG00000008321_BTJE	RNF8	5	26	-0.654	-0.125769231	Lost:5
ENSBTAG00000008321_BTLM	RNF8	5	26	-0.654	-0.125769231	Lost:5
ENSBTAG00000032051_BTLM	SULT1C4	3	14	-0.585	-0.125357143	Gain:2 Lost:1
ENSBTAG00000008888_BTLM	MIPEP	1	4	-0.482	-0.1205	Gain:1
ENSBTAG00000017647_BTLM	LOC520778	3	21	-0.84	-0.12	Increase:1 Decrease:1 Lost:1
ENSBTAG00000003721_BTLM	CHST1	8	94	-1.407	-0.119744681	Increase:1 Gain:6 Lost:1
ENSBTAG00000010225_BTHO	POLR2D	5	36	-0.833	-0.115694444	Lost:5
ENSBTAG00000040392_BTLM	MGC139164	4	38	-1.084	-0.114105263	Lost:4
ENSBTAG00000040392_BTJE	MGC139164	4	39	-1.084	-0.111179487	Lost:4

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000010135_BTLM	TMEM189	5	27	-0.593	-0.109814815	Increase:2 Decrease:1 Gain:2
ENSBTAG00000014897_BTHO		5	41	-0.887	-0.108170732	Gain:1 Lost:4
ENSBTAG00000018639_BTRO	UNC45A	5	28	-0.596	-0.106428571	Gain:5
ENSBTAG00000019096_BTAN	UQCRC1	2	8	-0.423	-0.10575	Gain:1 Lost:1
ENSBTAG00000014897_BTAN		5	42	-0.887	-0.105595238	Gain:1 Lost:4
ENSBTAG00000018639_BTJE	UNC45A	5	29	-0.596	-0.102758621	Gain:5
ENSBTAG00000018639_BTLM	UNC45A	5	29	-0.596	-0.102758621	Gain:5
ENSBTAG00000016208_BTAN	TGM2	16	181	-1.153	-0.101922652	Increase:1 Decrease:1 Gain:8 Lost:6
ENSBTAG00000037640_BTLM	PID1	9	151	-1.647	-0.098165563	Gain:4 Lost:5
ENSBTAG00000006914_BTJE	PRR3	8	102	-1.243	-0.097490196	Decrease:5 Gain:2 Lost:1
ENSBTAG00000040331_BTFL	GIMAP1	5	37	-0.717	-0.096891892	Decrease:1 Gain:1 Lost:3
ENSBTAG00000010365_BTJE	SQRDL	5	39	-0.754	-0.096666667	Gain:1 Lost:4
ENSBTAG00000008888_BTHO	MIPEP	1	5	-0.482	-0.0964	Gain:1
ENSBTAG00000008888_BTJE	MIPEP	1	5	-0.482	-0.0964	Gain:1
ENSBTAG00000022120_BTLM	FGB	9	99	-1.051	-0.095545455	Increase:2 Gain:1 Lost:5
ENSBTAG00000027326_BTJE	TP53RK	4	49	-1.166	-0.095183673	Gain:2 Lost:2
ENSBTAG00000009144_BTAN	BPIFA2A	3	16	-0.504	-0.0945	Gain:3
ENSBTAG00000019082_BTJE	RAD51D	9	66	-0.693	-0.0945	Gain:9

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000009363_BTHO	GINS3	7	107	-1.417	-0.092700935	Decrease:1 Gain:2 Lost:4
ENSBTAG00000006552_BTAN	LAMP3	6	59	-0.909	-0.092440678	Decrease:3 Gain:2 Lost:1
ENSBTAG00000006552_BTHO	LAMP3	6	59	-0.909	-0.092440678	Decrease:3 Gain:2 Lost:1
ENSBTAG00000017056_BTAN	PKLR	7	112	-1.454	-0.090875	Decrease:3 Gain:2 Lost:2
ENSBTAG00000009144_BTHO	BPIFA2A	3	17	-0.505	-0.089117647	Gain:3
ENSBTAG00000009144_BTLM	BPIFA2A	3	17	-0.505	-0.089117647	Gain:3
ENSBTAG00000009144_BTRO	BPIFA2A	3	17	-0.505	-0.089117647	Gain:3
ENSBTAG00000001764_BTAN	NCAN	10	172	-1.523	-0.088546512	Increase:1 Decrease:2 Gain:3 Lost:4
ENSBTAG00000035012_BTHO	LOC786811	2	13	-0.569	-0.087538462	Lost:2
ENSBTAG00000039028_BTHO	PI3	3	8	-0.232	-0.087	Lost:3
ENSBTAG00000005441_BTLM	ZMAT2	6	63	-0.886	-0.084380952	Increase:2 Gain:2 Lost:2
ENSBTAG00000018010_BTHO	ABCA4	6	69	-0.954	-0.082956522	Increase:2 Decrease:2 Gain:2
ENSBTAG00000007191_BTAN	CCL5	5	44	-0.72	-0.081818182	Increase:1 Decrease:2 Gain:1 Lost:1
ENSBTAG00000016077_BTJE	ZNF317	6	32	-0.435	-0.0815625	Gain:5 Lost:1
ENSBTAG00000006738_BTLM	GPR68	11	164	-1.191	-0.079884146	Increase:5 Decrease:1 Gain:4 Lost:1

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000009144_BTJE	BPIFA2A	3	16	-0.426	-0.079875	Decrease:1 Gain:2
ENSBTAG00000011424_BTHO	TPM2	8	131	-1.286	-0.078534351	Increase:8
ENSBTAG00000016316_BTHO	ZZEF1	2	15	-0.587	-0.078266667	Decrease:1 Lost:1
ENSBTAG00000018011_BTHO	APOBR	5	35	-0.547	-0.078142857	Gain:4 Lost:1
ENSBTAG00000020613_BTJE	STK16	3	30	-0.774	-0.0774	Lost:3
ENSBTAG00000007599_BTJE	IKBKB	8	106	-1.019	-0.07690566	Increase:1 Lost:7
ENSBTAG00000020613_BTHO	STK16	3	31	-0.774	-0.074903226	Lost:3
ENSBTAG00000006756_BTJE	MATR3	6	84	-1.037	-0.074071429	Increase:2 Lost:4
ENSBTAG00000009036_BTAN	SUPT6H	4	55	-0.978	-0.071127273	Gain:4
ENSBTAG00000001186_BTLM		2	17	-0.604	-0.071058824	Gain:1 Lost:1
ENSBTAG00000010300_BTJE		4	32	-0.562	-0.07025	Gain:2 Lost:2
ENSBTAG00000009036_BTLM	SUPT6H	4	56	-0.978	-0.069857143	Gain:4
ENSBTAG00000013527_BTJE	PGD	3	30	-0.691	-0.0691	Increase:1 Decrease:2
ENSBTAG00000001186_BTHO		2	18	-0.604	-0.067111111	Gain:1 Lost:1
ENSBTAG00000017825_BTAN	SEC13	4	25	-0.419	-0.06704	Lost:4
ENSBTAG00000014434_BTHO	CCHCR1	3	12	-0.265	-0.06625	Lost:3
ENSBTAG00000013621_BTJE	DPY19L4	3	35	-0.764	-0.065485714	Increase:2 Gain:1
ENSBTAG00000017056_BTHO	PKLR	8	115	-0.908	-0.063165217	Decrease:3 Gain:5
ENSBTAG00000000106_BTAN	FAM69C	3	19	-0.393	-0.062052632	Increase:1 Lost:2
ENSBTAG00000007530_BTHO	TRIM10	4	28	-0.434	-0.062	Gain:4
ENSBTAG00000011944_BTJE	MTTP	4	74	-1.145	-0.061891892	Lost:4
ENSBTAG00000002300_BTJE	DCT	3	21	-0.431	-0.061571429	Gain:2 Lost:1

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000020395_BTLM	LYSMD1	5	89	-1.094	-0.061460674	Increase:2 Gain:2 Lost:1
ENSBTAG00000007142_BTHO	CPPED1	5	65	-0.795	-0.061153846	Lost:5
ENSBTAG00000037640_BTJE	PID1	7	154	-1.332	-0.060545455	Gain:5 Lost:2
ENSBTAG00000033679_BTJE	HLCS	10	184	-1.105	-0.060054348	Gain:3 Lost:7
ENSBTAG00000024542_BTJE	PIGC	2	14	-0.396	-0.056571429	Gain:2
ENSBTAG00000019888_BTRO		3	26	-0.484	-0.055846154	Increase:3
ENSBTAG00000003754_BTJE		2	18	-0.498	-0.055333333	Gain:2
ENSBTAG00000006084_BTHO	PINK1	5	93	-1.029	-0.055322581	Gain:5
ENSBTAG00000006738_BTJE	GPR68	9	164	-1.002	-0.054987805	Increase:5 Decrease:1 Gain:3
ENSBTAG00000015351_BTLM	STYK1	2	19	-0.507	-0.053368421	Gain:2
ENSBTAG00000025664_BTAN	RNASE3	2	12	-0.319	-0.053166667	Lost:2
ENSBTAG00000007275_BTAN	TREM2	2	17	-0.449	-0.052823529	Lost:2
ENSBTAG00000003754_BTHO		2	19	-0.498	-0.052421053	Gain:2
ENSBTAG00000038058_BTJE	LOC518623	3	34	-0.593	-0.052323529	Gain:2 Lost:1
ENSBTAG00000004894_BTRO	GIMAP5	3	39	-0.68	-0.052307692	Increase:3
ENSBTAG00000001580_BTJE	CLGN	4	43	-0.562	-0.05227907	Increase:1 Gain:1 Lost:2
ENSBTAG00000038058_BTHO	LOC518623	3	35	-0.593	-0.050828571	Gain:2 Lost:1
ENSBTAG00000038058_BTLM	LOC518623	3	35	-0.593	-0.050828571	Gain:2 Lost:1
ENSBTAG00000000362_BTJE	SPG11	2	20	-0.498	-0.0498	Gain:1 Lost:1
ENSBTAG00000020395_BTAN	LYSMD1	4	86	-1.062	-0.049395349	Lost:4
ENSBTAG00000025664_BTHO	RNASE3	2	13	-0.319	-0.049076923	Lost:2
ENSBTAG00000025664_BTJE	RNASE3	2	13	-0.319	-0.049076923	Lost:2
ENSBTAG00000025664_BTLM	RNASE3	2	13	-0.319	-0.049076923	Lost:2
ENSBTAG00000025664_BTRO	RNASE3	2	13	-0.319	-0.049076923	Lost:2

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000003589_BTJE	COMMD3	4	20	-0.243	-0.0486	Increase:3 Gain:1
ENSBTAG00000045588_BTHO	BST2B	7	145	-1.001	-0.048324138	Increase:1 Decrease:3 Gain:3
ENSBTAG00000001594_BTHO	ARL6IP4	3	27	-0.429	-0.047666667	Lost:3
ENSBTAG00000000362_BTLM	SPG11	2	21	-0.498	-0.047428571	Gain:1 Lost:1
ENSBTAG00000009362_BTJE	SYNE1	3	58	-0.916	-0.04737931	Gain:1 Lost:2
ENSBTAG00000000179_BTHO	RPUSD1	6	90	-0.709	-0.047266667	Decrease:1 Gain:2 Lost:3
ENSBTAG00000009363_BTJE	GINS3	5	108	-1.013	-0.046898148	Decrease:1 Gain:1 Lost:3
ENSBTAG00000011881_BTJE	TDRD10	2	18	-0.422	-0.046888889	Lost:2
ENSBTAG00000003589_BTLM	COMMD3	4	21	-0.243	-0.046285714	Increase:3 Gain:1
ENSBTAG00000038104_BTHO	HMGN2	4	57	-0.659	-0.046245614	Gain:3 Lost:1
ENSBTAG00000015301_BTHO	MRPS10	3	28	-0.429	-0.045964286	Gain:1 Lost:2
ENSBTAG00000009127_BTLM	TSPYL4	6	184	-1.406	-0.045847826	Decrease:3 Gain:3
ENSBTAG00000003409_BTLM	FKBP1B	6	57	-0.435	-0.045789474	Lost:6
ENSBTAG00000009653_BTLM	LOC100848382	4	45	-0.514	-0.045688889	Gain:3 Lost:1
ENSBTAG00000018761_BTJE	C11H2orf18	7	206	-1.339	-0.0455	Increase:3 Decrease:3 Gain:1
ENSBTAG00000006709_BTAN	NPPA	1	12	-0.543	-0.04525	Lost:1
ENSBTAG00000003409_BTHO	FKBP1B	6	58	-0.435	-0.045	Lost:6
ENSBTAG00000003409_BTJE	FKBP1B	6	58	-0.435	-0.045	Lost:6
ENSBTAG00000002859_BTAN		9	142	-0.709	-0.04493662	Decrease:1 Gain:6 Lost:2

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000005441_BTAN	ZMAT2	5	65	-0.578	-0.044461538	Gain:5
ENSBTAG00000025372_BTJE	NO66	3	50	-0.74	-0.0444	Increase:1 Gain:1 Lost:1
ENSBTAG00000017115_BTLM	TMEM41A	5	60	-0.532	-0.044333333	Gain:2 Lost:3
ENSBTAG00000025372_BTHO	NO66	3	51	-0.74	-0.043529412	Increase:1 Gain:1 Lost:1
ENSBTAG00000025372_BTLM	NO66	3	51	-0.74	-0.043529412	Increase:1 Gain:1 Lost:1
ENSBTAG00000032709_BTHO	CMTM5	2	25	-0.544	-0.04352	Gain:1 Lost:1
ENSBTAG00000032709_BTJE	CMTM5	2	25	-0.544	-0.04352	Gain:1 Lost:1
ENSBTAG00000032709_BTLM	CMTM5	2	25	-0.544	-0.04352	Gain:1 Lost:1
ENSBTAG00000010789_BTLM	ANKRD54	7	114	-0.707	-0.043412281	Increase:2 Decrease:1 Lost:4
ENSBTAG00000014253_BTLM	TBC1D22B	5	84	-0.726	-0.043214286	Gain:5
ENSBTAG00000002859_BTLM		9	142	-0.659	-0.041767606	Decrease:1 Gain:6 Lost:2
ENSBTAG00000006349_BTHO	EXTL1	4	121	-1.253	-0.041421488	Decrease:4
ENSBTAG00000018761_BTLM	C11H2orf18	7	207	-1.209	-0.040884058	Increase:3 Decrease:2 Gain:1 Lost:1
ENSBTAG00000013577_BTLM	SLC1A5	3	49	-0.666	-0.04077551	Gain:2 Lost:1
ENSBTAG00000040055_BTJE	CAB39	7	148	-0.86	-0.040675676	Increase:1 Gain:5 Lost:1

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000015125_BTAN	KLK5	3	33	-0.447	-0.040636364	Decrease:2 Gain:1
ENSBTAG00000005565_BTHO	CLN6	5	50	-0.404	-0.0404	Increase:2 Decrease:2 Lost:1
ENSBTAG00000013577_BTJE	SLC1A5	3	48	-0.638	-0.039875	Gain:1 Lost:2
ENSBTAG00000021672_BTJE	RGS1	4	65	-0.642	-0.039507692	Gain:3 Lost:1
ENSBTAG00000021672_BTLM	RGS1	4	65	-0.642	-0.039507692	Gain:3 Lost:1
ENSBTAG00000000825_BTJE	MRPS26	1	3	-0.118	-0.039333333	Gain:1
ENSBTAG00000036224_BTHO	LOC513943	3	40	-0.52	-0.039	Gain:3
ENSBTAG00000014911_BTHO	LEP	8	182	-0.886	-0.038945055	Increase:2 Gain:3 Lost:3
ENSBTAG00000011204_BTLM	NINJ1	4	63	-0.608	-0.038603175	Gain:3 Lost:1
ENSBTAG00000007961_BTJE	TADA3	4	69	-0.657	-0.038086957	Gain:3 Lost:1
ENSBTAG00000004913_BTHO	RNF167	2	19	-0.361	-0.038	Gain:1 Lost:1
ENSBTAG00000018181_BTHO	CCDC8	3	28	-0.354	-0.037928571	Gain:1 Lost:2
ENSBTAG00000004364_BTLM	THNSL2	4	90	-0.841	-0.037377778	Gain:4
ENSBTAG00000003679_BTJE	PAAF1	2	33	-0.616	-0.037333333	Decrease:1 Lost:1
ENSBTAG00000021240_BTAN	TM7SF4	4	51	-0.474	-0.037176471	Decrease:2 Gain:1 Lost:1
ENSBTAG00000009570_BTAN		2	27	-0.499	-0.036962963	Gain:1 Lost:1
ENSBTAG00000045794_BTLM	PL-5283	7	141	-0.739	-0.036687943	Increase:2 Decrease:2 Gain:1 Lost:2

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000046121_BTLM	LOC100196897	2	15	-0.275	-0.036666667	Gain:1 Lost:1
ENSBTAG00000002859_BTJE		8	142	-0.645	-0.036338028	Decrease:1 Gain:5 Lost:2
ENSBTAG00000009055_BTJE	RNF144B	10	230	-0.835	-0.036304348	Increase:6 Decrease:1 Gain:1 Lost:2
ENSBTAG00000005133_BTJE	ANKS6	3	43	-0.511	-0.035651163	Gain:2 Lost:1
ENSBTAG00000001854_BTLM	CIAPIN1	4	53	-0.472	-0.035622642	Gain:2 Lost:2
ENSBTAG00000021497_BTAN	CDH23	4	65	-0.569	-0.035015385	Increase:1 Lost:3
ENSBTAG00000021497_BTHO	CDH23	4	65	-0.569	-0.035015385	Increase:1 Lost:3
ENSBTAG00000001854_BTAN	CIAPIN1	4	54	-0.472	-0.034962963	Gain:2 Lost:2
ENSBTAG00000001854_BTHO	CIAPIN1	4	54	-0.472	-0.034962963	Gain:2 Lost:2
ENSBTAG00000024162_BTJE	SLC19A1	5	53	-0.37	-0.03490566	Decrease:3 Lost:2
ENSBTAG00000005133_BTAN	ANKS6	3	44	-0.511	-0.034840909	Gain:2 Lost:1
ENSBTAG00000005133_BTHO	ANKS6	3	44	-0.511	-0.034840909	Gain:2 Lost:1
ENSBTAG00000037489_BTLM	CRCP	3	57	-0.648	-0.034105263	Increase:1 Gain:2
ENSBTAG00000014229_BTAN	SYT17	2	29	-0.474	-0.032689655	Gain:1 Lost:1
ENSBTAG00000047567_BTHO	Vegfb	3	39	-0.424	-0.032615385	Lost:3
ENSBTAG00000047567_BTJE	Vegfb	3	39	-0.424	-0.032615385	Lost:3
ENSBTAG00000047567_BTLM	Vegfb	3	39	-0.424	-0.032615385	Lost:3
ENSBTAG00000004208_BTLM		2	21	-0.339	-0.032285714	Lost:2
ENSBTAG00000008946_BTJE	CAPN13	3	55	-0.591	-0.032236364	Lost:3
ENSBTAG00000037856_BTLM	MGC152281	4	88	-0.702	-0.031909091	Increase:1 Lost:3
ENSBTAG00000008116_BTLM	POLDIP2	2	29	-0.458	-0.031586207	Lost:2
ENSBTAG00000018625_BTLM	ZNF263	3	48	-0.503	-0.0314375	Lost:3
ENSBTAG00000004208_BTRO		2	22	-0.339	-0.030818182	Lost:2

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000038080_BTLM	LOC508858	1	5	-0.154	-0.0308	Gain:1
ENSBTAG00000021652_BTJE	PDZD9	2	41	-0.629	-0.030682927	Gain:1 Lost:1
ENSBTAG00000031041_BTHO	NHEJ1	3	43	-0.438	-0.03055814	Gain:1 Lost:2
ENSBTAG00000013573_BTLM	BIRC5	4	99	-0.748	-0.030222222	Decrease:1 Gain:1 Lost:2
ENSBTAG00000031041_BTJE	NHEJ1	3	44	-0.438	-0.029863636	Gain:1 Lost:2
ENSBTAG00000017739_BTAN	TNK1	3	43	-0.427	-0.029790698	Increase:1 Lost:2
ENSBTAG00000017739_BTLM	TNK1	3	43	-0.427	-0.029790698	Increase:1 Lost:2
ENSBTAG00000017739_BTRO	TNK1	3	43	-0.427	-0.029790698	Increase:1 Lost:2
ENSBTAG00000008419_BTAN	PDE2A	3	79	-0.784	-0.029772152	Increase:2 Gain:1
ENSBTAG00000000910_BTAN	SLC6A7	5	141	-0.835	-0.029609929	Decrease:3 Gain:1 Lost:1
ENSBTAG00000020395_BTJE	LYSMD1	3	89	-0.873	-0.029426966	Increase:2 Lost:1
ENSBTAG00000000563_BTHO	MYD88	8	131	-0.48	-0.029312977	Gain:1 Lost:7
ENSBTAG00000018287_BTJE	SLC25A48	3	57	-0.555	-0.029210526	Gain:2 Lost:1
ENSBTAG00000005759_BTAN	PLA2G2A	2	24	-0.349	-0.029083333	Gain:2
ENSBTAG00000006084_BTLM	PINK1	4	93	-0.669	-0.028774194	Gain:4
ENSBTAG00000023611_BTHO	ZBTB32	2	19	-0.272	-0.028631579	Gain:1 Lost:1
ENSBTAG00000025212_BTHO	HARS2	3	84	-0.798	-0.0285	Decrease:1 Gain:1 Lost:1
ENSBTAG00000010835_BTHO	CRELD1	3	37	-0.351	-0.028459459	Increase:1 Lost:2
ENSBTAG00000039493_BTJE	ZNF177	5	92	-0.523	-0.028423913	Gain:3 Lost:2
ENSBTAG00000038340_BTJE	CLNK	1	5	-0.142	-0.0284	Gain:1

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000017328_BTJE	LOC404103	3	44	-0.414	-0.028227273	Gain:2 Lost:1
ENSBTAG00000035785_BTLM	LOC786246	7	141	-0.567	-0.028148936	Increase:3 Decrease:1 Gain:3
ENSBTAG00000021540_BTJE	WDR11	3	61	-0.57	-0.028032787	Decrease:1 Lost:2
ENSBTAG00000014083_BTJE	AMIGO1	7	227	-0.907	-0.027969163	Decrease:2 Gain:3 Lost:2
ENSBTAG00000020244_BTJE	EFNA1	3	77	-0.712	-0.02774026	Gain:3
ENSBTAG00000010835_BTJE	CRELD1	3	38	-0.351	-0.027710526	Increase:1 Lost:2
ENSBTAG00000010835_BTLM	CRELD1	3	38	-0.351	-0.027710526	Increase:1 Lost:2
ENSBTAG00000020611_BTJE	GLB1L	1	12	-0.332	-0.027666667	Gain:1
ENSBTAG00000018240_BTHO	CYP2S1	2	36	-0.498	-0.027666667	Gain:1 Lost:1
ENSBTAG00000009431_BTHO	SLC25A44	10	199	-0.55	-0.027638191	Gain:2 Lost:8
ENSBTAG00000017328_BTLM	LOC404103	3	45	-0.414	-0.0276	Gain:2 Lost:1
ENSBTAG00000014523_BTHO	DIRAS2	4	107	-0.727	-0.02717757	Lost:4
ENSBTAG00000004804_BTJE	RRN3	3	60	-0.542	-0.0271	Gain:2 Lost:1
ENSBTAG00000004804_BTLM	RRN3	3	60	-0.542	-0.0271	Gain:2 Lost:1
ENSBTAG00000001764_BTLM	NCAN	6	175	-0.789	-0.027051429	Decrease:1 Gain:2 Lost:3
ENSBTAG00000019608_BTLM	DDX47	2	24	-0.321	-0.02675	Lost:2
ENSBTAG00000018011_BTLM	APOBR	3	35	-0.312	-0.026742857	Gain:3
ENSBTAG00000024233_BTJE	RAN	1	6	-0.159	-0.0265	Lost:1
ENSBTAG00000004894_BTAN	GIMAP5	3	39	-0.343	-0.026384615	Gain:3
ENSBTAG00000038080_BTJE	LOC508858	1	6	-0.154	-0.025666667	Gain:1
ENSBTAG00000019987_BTLM	RPP14	4	110	-0.701	-0.025490909	Gain:4
ENSBTAG00000011002_BTLM	CCDC136	2	27	-0.344	-0.025481481	Gain:2

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000025345_BTLM	ARL10	1	9	-0.228	-0.025333333	Lost:1
ENSBTAG00000020843_BTHO	PCSK1	2	22	-0.276	-0.025090909	Lost:2
ENSBTAG00000001186_BTJE		1	19	-0.473	-0.024894737	Gain:1
ENSBTAG00000014912_BTJE	FMOD	6	118	-0.486	-0.024711864	Decrease:1 Gain:2 Lost:3
ENSBTAG00000014912_BTLM	FMOD	6	119	-0.486	-0.024504202	Decrease:1 Gain:2 Lost:3
ENSBTAG00000038263_BTJE	CD1A	2	39	-0.475	-0.024358974	Gain:1 Lost:1
ENSBTAG00000010956_BTJE	SCARB2	6	158	-0.639	-0.024265823	Increase:1 Gain:4 Lost:1
ENSBTAG00000005678_BTLM	AACS	4	79	-0.479	-0.024253165	Decrease:1 Lost:3
ENSBTAG00000008299_BTLM	IL20RB	3	64	-0.514	-0.02409375	Increase:3
ENSBTAG00000019557_BTHO	NR1I2	3	64	-0.514	-0.02409375	Increase:1 Gain:1 Lost:1
ENSBTAG00000039509_BTLM	GPRC5A	4	82	-0.492	-0.024	Gain:3 Lost:1
ENSBTAG00000005427_BTLM	C10H14orf102	4	78	-0.465	-0.023846154	Increase:2 Lost:2
ENSBTAG00000015329_BTAN	FAM63A	2	30	-0.357	-0.0238	Gain:1 Lost:1
ENSBTAG00000009362_BTLM	SYNE1	2	58	-0.688	-0.023724138	Gain:1 Lost:1
ENSBTAG00000017882_BTJE	LRRC3	3	52	-0.408	-0.023538462	Gain:1 Lost:2
ENSBTAG00000008579_BTHO	RCC2	4	153	-0.889	-0.02324183	Gain:3 Lost:1
ENSBTAG00000008579_BTLM	RCC2	4	153	-0.889	-0.02324183	Gain:3 Lost:1
ENSBTAG00000014620_BTAN	FOXI1	3	59	-0.451	-0.022932203	Gain:2 Lost:1

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000019082_BTHO	RAD51D	3	64	-0.488	-0.022875	Decrease:1 Lost:2
ENSBTAG00000025345_BTHO	ARL10	1	10	-0.228	-0.0228	Lost:1
ENSBTAG00000005678_BTAN	AACS	3	82	-0.62	-0.022682927	Increase:1 Gain:1 Lost:1
ENSBTAG00000008773_BTLM	GUCY2D	4	104	-0.588	-0.022615385	Decrease:3 Gain:1
ENSBTAG00000014129_BTLM	RAB5B	2	34	-0.383	-0.022529412	Lost:2
ENSBTAG00000008773_BTHO	GUCY2D	4	105	-0.588	-0.0224	Decrease:3 Gain:1
ENSBTAG00000019700_BTLM	PC	3	53	-0.393	-0.022245283	Lost:3
ENSBTAG00000021939_BTAN	ELAC2	5	75	-0.333	-0.0222	Decrease:4 Lost:1
ENSBTAG00000020048_BTJE	MAPK10	3	61	-0.451	-0.022180328	Gain:3
ENSBTAG00000016267_BTAN	SERPING1	3	33	-0.238	-0.021636364	Lost:3
ENSBTAG00000010365_BTHO	SQRDL	2	40	-0.429	-0.02145	Lost:2
ENSBTAG00000045762_BTLM	SCAMP4	4	155	-0.819	-0.021135484	Decrease:1 Gain:2 Lost:1
ENSBTAG00000004894_BTFL	GIMAP5	2	38	-0.401	-0.021105263	Increase:1 Lost:1
ENSBTAG00000010365_BTAN	SQRDL	2	41	-0.429	-0.020926829	Lost:2
ENSBTAG00000010365_BTLM	SQRDL	2	41	-0.429	-0.020926829	Lost:2
ENSBTAG00000006355_BTLM	SLC30A2	2	45	-0.467	-0.020755556	Increase:1 Gain:1
ENSBTAG00000013577_BTHO	SLC1A5	2	48	-0.494	-0.020583333	Gain:1 Lost:1
ENSBTAG00000030393_BTRO	RDH13	4	155	-0.793	-0.020464516	Gain:4
ENSBTAG00000006707_BTJE	ACSL5	2	22	-0.225	-0.020454545	Increase:1 Gain:1

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000040331_BTJE	GIMAP1	2	41	-0.419	-0.020439024	Gain:1 Lost:1
ENSBTAG00000004877_BTHO	TRAIP	4	125	-0.636	-0.020352	Gain:1 Lost:3
ENSBTAG00000004877_BTJE	TRAIP	4	125	-0.636	-0.020352	Gain:1 Lost:3
ENSBTAG00000000431_BTJE		2	37	-0.369	-0.019945946	Lost:2
ENSBTAG00000031824_BTLM	RBM19	2	53	-0.527	-0.019886792	Decrease:1 Gain:1
ENSBTAG00000031824_BTAN	RBM19	2	54	-0.527	-0.019518519	Decrease:1 Gain:1
ENSBTAG00000006037_BTHO	WISP2	5	69	-0.266	-0.019275362	Gain:5
ENSBTAG00000020412_BTJE	RAP2A	6	104	-0.334	-0.019269231	Decrease:3 Gain:3
ENSBTAG00000021977_BTLM	PRRC1	2	26	-0.248	-0.019076923	Increase:1 Gain:1
ENSBTAG00000013492_BTJE	PRKAG3	6	102	-0.323	-0.019	Decrease:2 Gain:4
ENSBTAG00000014063_BTHO	LOC525414	1	8	-0.152	-0.019	Lost:1
ENSBTAG00000017727_BTLM	KIFAP3	2	24	-0.225	-0.01875	Gain:2
ENSBTAG00000009362_BTHO	SYNE1	3	58	-0.362	-0.018724138	Gain:1 Lost:2
ENSBTAG00000002508_BTLM	GNG3	2	36	-0.336	-0.018666667	Decrease:1 Gain:1
ENSBTAG00000018647_BTJE	SLC2A11	2	35	-0.326	-0.018628571	Lost:2
ENSBTAG00000004870_BTLM	GALNT2	4	59	-0.274	-0.018576271	Gain:4
ENSBTAG00000005963_BTLM	MAT1A	6	176	-0.543	-0.018511364	Increase:3 Decrease:1 Gain:2
ENSBTAG00000000910_BTJE	SLC6A7	5	139	-0.511	-0.018381295	Decrease:3 Lost:2
ENSBTAG00000005289_BTHO	CHERP	3	89	-0.545	-0.018370787	Lost:3
ENSBTAG00000006410_BTJE	DCTN5	4	106	-0.486	-0.018339623	Increase:1 Gain:2 Lost:1
ENSBTAG00000017845_BTLM	BAG1	2	66	-0.604	-0.01830303	Gain:1 Lost:1

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000018999_BTLM	MGRN1	3	170	-1.036	-0.018282353	Lost:3
ENSBTAG00000045588_BTJE	BST2B	4	145	-0.661	-0.018234483	Decrease:3 Gain:1
ENSBTAG00000019225_BTJE	SLC39A14	6	179	-0.543	-0.018201117	Gain:6
ENSBTAG00000005289_BTAN	CHERP	3	90	-0.545	-0.018166667	Lost:3
ENSBTAG00000005289_BTJE	CHERP	3	90	-0.545	-0.018166667	Lost:3
ENSBTAG00000002508_BTHO	GNG3	2	37	-0.336	-0.018162162	Decrease:1 Gain:1
ENSBTAG00000018205_BTLM	PHC1	2	31	-0.279	-0.018	Gain:1 Lost:1
ENSBTAG00000023610_BTLM	U2AF1L4	2	16	-0.144	-0.018	Lost:2
ENSBTAG00000007958_BTLM	TNS4	6	211	-0.624	-0.017744076	Increase:1 Gain:2 Lost:3
ENSBTAG00000031916_BTAN	LOC782874	1	30	-0.531	-0.0177	Gain:1
ENSBTAG00000031916_BTHO	LOC782874	1	30	-0.531	-0.0177	Gain:1
ENSBTAG00000031916_BTJE	LOC782874	1	30	-0.531	-0.0177	Gain:1
ENSBTAG00000031916_BTLM	LOC782874	1	30	-0.531	-0.0177	Gain:1
ENSBTAG00000031916_BTRO	LOC782874	1	30	-0.531	-0.0177	Gain:1
ENSBTAG00000019752_BTLM	BPIFA2B	1	14	-0.246	-0.017571429	Gain:1
ENSBTAG00000011397_BTLM	UNC13B	4	140	-0.612	-0.017485714	Decrease:3 Lost:1
ENSBTAG00000018205_BTJE	PHC1	2	32	-0.279	-0.0174375	Gain:1 Lost:1
ENSBTAG00000019094_BTJE	NLE1	2	35	-0.298	-0.017028571	Lost:2
ENSBTAG00000037489_BTAN	CRCP	2	58	-0.493	-0.017	Increase:1 Gain:1
ENSBTAG00000009886_BTJE	KDELR3	3	62	-0.35	-0.016935484	Increase:1 Lost:2
ENSBTAG00000021573_BTJE	DCAF12	4	164	-0.693	-0.016902439	Increase:1 Lost:3
ENSBTAG00000040055_BTLM	CAB39	5	149	-0.498	-0.016711409	Gain:4 Lost:1
ENSBTAG00000014233_BTJE	CCT8	1	9	-0.15	-0.016666667	Lost:1
ENSBTAG00000012939_BTJE	DTNBP1	2	26	-0.214	-0.016461538	Gain:2
ENSBTAG00000011838_BTJE	PCED1B	1	13	-0.209	-0.016076923	Lost:1
ENSBTAG00000000406_BTJE	GPATCH4	1	22	-0.353	-0.016045455	Increase:1

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000005441_BTHO	ZMAT2	3	64	-0.342	-0.01603125	Increase:1 Gain:2
ENSBTAG00000009400_BTLM	FASTKD3	1	8	-0.128	-0.016	Gain:1
ENSBTAG00000000406_BTLM	GPATCH4	1	22	-0.348	-0.015818182	Increase:1
ENSBTAG00000010551_BTHO	ATP1A2	4	170	-0.672	-0.015811765	Increase:1 Gain:3
ENSBTAG00000000380_BTJE	C5H12orf39	5	93	-0.293	-0.015752688	Gain:5
ENSBTAG00000018020_BTLM	GNAT1	5	162	-0.508	-0.015679012	Increase:3 Lost:2
ENSBTAG00000000382_BTLM	MED27	3	31	-0.162	-0.015677419	Gain:1 Lost:2
ENSBTAG00000005077_BTHO	CXCL12	4	102	-0.396	-0.015529412	Gain:3 Lost:1
ENSBTAG00000005077_BTLM	CXCL12	4	102	-0.396	-0.015529412	Gain:3 Lost:1
ENSBTAG00000006304_BTLM	PAG6	1	9	-0.139	-0.015444444	Lost:1
ENSBTAG00000019906_BTLM	VPS25	2	48	-0.369	-0.015375	Gain:2
ENSBTAG00000013919_BTJE	BOLA-DRB3	2	35	-0.266	-0.0152	Gain:1 Lost:1
ENSBTAG00000044169_BTLM	PRELID2	3	142	-0.718	-0.015169014	Decrease:2 Gain:1
ENSBTAG00000009362_BTAN	SYNE1	2	59	-0.445	-0.015084746	Gain:1 Lost:1
ENSBTAG00000014141_BTAN	SPATA4	1	13	-0.195	-0.015	Gain:1
ENSBTAG00000009431_BTLM	SLC25A44	7	200	-0.428	-0.01498	Gain:1 Lost:6
ENSBTAG00000020051_BTJE	C25H16orf82	4	134	-0.501	-0.014955224	Increase:1 Lost:3
ENSBTAG00000009431_BTAN	SLC25A44	7	201	-0.428	-0.014905473	Gain:1 Lost:6
ENSBTAG00000009431_BTJE	SLC25A44	7	201	-0.428	-0.014905473	Gain:1 Lost:6
ENSBTAG00000002859_BTHO		5	144	-0.426	-0.014791667	Gain:4 Lost:1
ENSBTAG00000002414_BTAN	KCNJ10	8	247	-0.454	-0.014704453	Increase:6 Gain:2
ENSBTAG00000008008_BTHO	TLR2	3	82	-0.398	-0.014560976	Gain:3

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000015986_BTHO	NDE1	4	170	-0.616	-0.014494118	Decrease:3 Gain:1
ENSBTAG00000031715_BTJE	PCMTD2	4	154	-0.555	-0.014415584	Increase:3 Lost:1
ENSBTAG00000031715_BTLM	PCMTD2	4	154	-0.555	-0.014415584	Increase:3 Lost:1
ENSBTAG00000007385_BTLM	EMC7	2	26	-0.187	-0.014384615	Increase:1 Lost:1
ENSBTAG00000012837_BTJE	COL6A6	2	39	-0.278	-0.01425641	Gain:1 Lost:1
ENSBTAG00000012837_BTLM	COL6A6	2	39	-0.278	-0.01425641	Gain:1 Lost:1
ENSBTAG00000018375_BTJE	ATCAY	1	31	-0.439	-0.01416129	Decrease:1
ENSBTAG00000046257_BTFL	GIMAP4	3	74	-0.348	-0.014108108	Gain:3
ENSBTAG00000000910_BTHO	SLC6A7	4	141	-0.489	-0.01387234	Decrease:3 Lost:1
ENSBTAG00000002700_BTLM	PLA2G2A	2	31	-0.215	-0.013870968	Gain:2
ENSBTAG00000011634_BTJE	ACPP	3	92	-0.422	-0.01376087	Gain:2 Lost:1
ENSBTAG00000001839_BTJE	OCIAD2	2	82	-0.564	-0.013756098	Gain:2
ENSBTAG00000039658_BTLM	PDCD7	1	27	-0.371	-0.013740741	Gain:1
ENSBTAG00000017943_BTLM	GALNT6	4	120	-0.41	-0.013666667	Decrease:1 Gain:2 Lost:1
ENSBTAG00000009163_BTJE	TMEM234	3	78	-0.354	-0.013615385	Gain:2 Lost:1
ENSBTAG00000006567_BTJE	VIPR1	4	111	-0.376	-0.01354955	Decrease:1 Gain:2 Lost:1
ENSBTAG00000017328_BTAN	LOC404103	2	45	-0.303	-0.013466667	Gain:1 Lost:1
ENSBTAG00000017328_BTHO	LOC404103	2	45	-0.303	-0.013466667	Gain:1 Lost:1
ENSBTAG00000002700_BTAN	PLA2G2A	2	32	-0.215	-0.0134375	Gain:2
ENSBTAG00000043553_BTLM	GPX3	3	92	-0.409	-0.013336957	Gain:2 Lost:1

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000014001_BTJE	MAP1A	2	14	-0.093	-0.013285714	Gain:2
ENSBTAG00000000697_BTLM	RRP8	1	13	-0.172	-0.013230769	Gain:1
ENSBTAG00000031851_BTHO	SELPLG	2	63	-0.412	-0.013079365	Gain:1 Lost:1
ENSBTAG00000016357_BTJE	VNN2	2	33	-0.215	-0.013030303	Gain:1 Lost:1
ENSBTAG00000032288_BTAN	GCK	3	87	-0.376	-0.012965517	Decrease:2 Gain:1
ENSBTAG00000000091_BTJE	NDUFB8	1	10	-0.129	-0.0129	Lost:1
ENSBTAG00000032288_BTLM	GCK	3	88	-0.376	-0.012818182	Decrease:2 Gain:1
ENSBTAG00000025313_BTHO	DYNLL2	4	138	-0.442	-0.012811594	Increase:1 Gain:2 Lost:1
ENSBTAG00000025313_BTJE	DYNLL2	4	139	-0.442	-0.012719424	Increase:1 Gain:2 Lost:1
ENSBTAG00000010866_BTJE	BMPER	2	76	-0.483	-0.012710526	Gain:1 Lost:1
ENSBTAG00000011491_BTHO	WDR81	2	97	-0.608	-0.012536082	Decrease:1 Lost:1
ENSBTAG00000011491_BTLM	WDR81	2	97	-0.608	-0.012536082	Decrease:1 Lost:1
ENSBTAG00000013478_BTLM	MARVELD1	3	148	-0.617	-0.012506757	Gain:1 Lost:2
ENSBTAG00000023169_BTJE		1	14	-0.175	-0.0125	Lost:1
ENSBTAG00000020282_BTJE	DCTD	3	101	-0.42	-0.012475248	Increase:1 Lost:2
ENSBTAG00000039714_BTJE	LOC523126	4	129	-0.4	-0.012403101	Increase:1 Gain:3
ENSBTAG00000004191_BTAN	JMJD4	1	5	-0.062	-0.0124	Gain:1
ENSBTAG00000008674_BTJE	FAM136A	4	105	-0.325	-0.012380952	Gain:2 Lost:2
ENSBTAG00000018287_BTHO	SLC25A48	2	57	-0.352	-0.012350877	Gain:2
ENSBTAG00000014101_BTJE	TSR3	1	11	-0.135	-0.012272727	Gain:1
ENSBTAG00000020517_BTLM	MED9	2	75	-0.456	-0.01216	Lost:2
ENSBTAG00000008340_BTAN	ATOX1	1	21	-0.249	-0.011857143	Lost:1

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000008340_BTLM	ATOX1	1	21	-0.249	-0.011857143	Lost:1
ENSBTAG00000019347_BTLM	PLXDC1	2	84	-0.494	-0.011761905	Decrease:1 Gain:1
ENSBTAG00000007097_BTLM	THTPA	2	81	-0.476	-0.011753086	Increase:1 Lost:1
ENSBTAG00000000898_BTJE	F2RL2	2	112	-0.658	-0.01175	Decrease:1 Gain:1
ENSBTAG00000004878_BTAN	CAMKV	2	120	-0.677	-0.011283333	Lost:2
ENSBTAG00000001154_BTJE	DGAT2	4	119	-0.335	-0.011260504	Gain:3 Lost:1
ENSBTAG00000012462_BTJE	MAP1LC3C	1	29	-0.324	-0.011172414	Gain:1
ENSBTAG00000015519_BTLM	GFM2	1	19	-0.212	-0.011157895	Increase:1
ENSBTAG00000012217_BTLM	PLA2G2F	5	239	-0.531	-0.011108787	Increase:1 Decrease:1 Gain:2 Lost:1
ENSBTAG00000005970_BTHO	XBP1	2	101	-0.558	-0.011049505	Gain:2
ENSBTAG00000007365_BTLM	NEIL1	2	81	-0.446	-0.011012346	Decrease:1 Lost:1
ENSBTAG00000012985_BTLM	FUK	3	68	-0.249	-0.010985294	Gain:3
ENSBTAG00000040055_BTHO	CAB39	4	149	-0.408	-0.01095302	Gain:3 Lost:1
ENSBTAG00000030325_BTJE	LOC782076	1	22	-0.24	-0.010909091	Gain:1
ENSBTAG00000008483_BTLM	CALCRL	3	158	-0.573	-0.010879747	Decrease:3
ENSBTAG00000016208_BTHO	TGM2	5	183	-0.398	-0.010874317	Decrease:1 Gain:1 Lost:3
ENSBTAG00000007109_BTHO	ASB2	2	50	-0.268	-0.01072	Gain:2
ENSBTAG00000007109_BTJE	ASB2	2	50	-0.268	-0.01072	Gain:2
ENSBTAG00000007109_BTLM	ASB2	2	50	-0.268	-0.01072	Gain:2
ENSBTAG00000020760_BTAN	SNAP29	2	32	-0.17	-0.010625	Gain:2
ENSBTAG00000009236_BTLM	DAGLB	5	178	-0.375	-0.010533708	Increase:1 Gain:1 Lost:3
ENSBTAG00000009215_BTJE	NR1I3	1	14	-0.147	-0.0105	Lost:1
ENSBTAG00000009215_BTLM	NR1I3	1	14	-0.147	-0.0105	Lost:1

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000011154_BTLM	SDC1	2	101	-0.527	-0.010435644	Lost:2
ENSBTAG00000014343_BTLM	RABL5	2	44	-0.228	-0.010363636	Gain:1 Lost:1
ENSBTAG00000020760_BTHO	SNAP29	2	33	-0.17	-0.01030303	Gain:2
ENSBTAG00000045754_BTAN	SMIM1	2	76	-0.391	-0.010289474	Lost:2
ENSBTAG00000045754_BTHO	SMIM1	2	77	-0.391	-0.010155844	Lost:2
ENSBTAG00000045754_BTJE	SMIM1	2	77	-0.391	-0.010155844	Lost:2
ENSBTAG00000045754_BTLM	SMIM1	2	77	-0.391	-0.010155844	Lost:2
ENSBTAG00000038810_BTJE	SFTA2	1	7	-0.071	-0.010142857	Gain:1
ENSBTAG00000038810_BTLM	SFTA2	1	7	-0.071	-0.010142857	Gain:1
ENSBTAG00000039122_BTLM	PLA2G5	2	47	-0.235	-0.01	Gain:2
ENSBTAG00000019557_BTLM	NR1I2	2	64	-0.315	-0.00984375	Gain:1 Lost:1
ENSBTAG00000001086_BTAN	FHL2	1	20	-0.196	-0.0098	Lost:1
ENSBTAG00000039122_BTJE	PLA2G5	2	48	-0.235	-0.009791667	Gain:2
ENSBTAG00000018722_BTLM	PLEKHM2	2	63	-0.306	-0.009714286	Decrease:1 Lost:1
ENSBTAG00000007275_BTRO	TREM2	1	17	-0.164	-0.009647059	Lost:1
ENSBTAG00000019107_BTAN	GAS7	3	155	-0.497	-0.009619355	Decrease:1 Gain:2
ENSBTAG00000019107_BTJE	GAS7	3	155	-0.497	-0.009619355	Decrease:1 Gain:2
ENSBTAG00000001481_BTHO	IGSF9	1	36	-0.345	-0.009583333	Increase:1
ENSBTAG00000001022_BTAN	AMDHD2	1	9	-0.086	-0.009555556	Gain:1
ENSBTAG00000014806_BTAN	ATP2A3	2	120	-0.571	-0.009516667	Gain:1 Lost:1
ENSBTAG00000001186_BTAN		2	19	-0.09	-0.009473684	Gain:2
ENSBTAG00000011007_BTLM	TTYH2	4	142	-0.329	-0.009267606	Gain:2 Lost:2
ENSBTAG00000012674_BTJE	CNKSR3	2	98	-0.452	-0.00922449	Gain:1 Lost:1
ENSBTAG00000018097_BTAN	PARN	2	69	-0.317	-0.009188406	Increase:1 Lost:1
ENSBTAG00000040607_BTLM	SLA2	4	172	-0.394	-0.009162791	Increase:1 Lost:3
ENSBTAG00000002069_BTHO	BOLA	1	32	-0.293	-0.00915625	Lost:1
ENSBTAG00000033603_BTHO	IP6K3	2	109	-0.499	-0.009155963	Lost:2

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000007275_BTHO	TREM2	1	18	-0.164	-0.009111111	Lost:1
ENSBTAG00000007275_BTJE	TREM2	1	18	-0.164	-0.009111111	Lost:1
ENSBTAG00000020895_BTLM	LOXL4	2	57	-0.257	-0.009017544	Increase:1 Gain:1
ENSBTAG00000014284_BTAN	ALPK2	1	33	-0.297	-0.009	Lost:1
ENSBTAG00000044075_BTJE	LOC100138613	2	65	-0.291	-0.008953846	Gain:2
ENSBTAG00000005585_BTAN		1	32	-0.285	-0.00890625	Gain:1
ENSBTAG00000020895_BTHO	LOXL4	2	58	-0.257	-0.008862069	Increase:1 Gain:1
ENSBTAG00000040388_BTJE	LOC783647	1	21	-0.186	-0.008857143	Gain:1
ENSBTAG00000040388_BTLM	LOC783647	1	21	-0.186	-0.008857143	Gain:1
ENSBTAG00000016744_BTLM	CAPRIN1	2	90	-0.398	-0.008844444	Decrease:1 Lost:1
ENSBTAG00000014143_BTJE	ASB5	3	115	-0.336	-0.008765217	Gain:3
ENSBTAG00000007530_BTJE	TRIM10	1	28	-0.245	-0.00875	Gain:1
ENSBTAG00000008132_BTLM	SOX13	2	33	-0.144	-0.008727273	Gain:1 Lost:1
ENSBTAG00000017239_BTLM	GABBR1	2	117	-0.502	-0.008581197	Decrease:1 Gain:1
ENSBTAG00000011209_BTLM	SYT11	4	161	-0.345	-0.008571429	Decrease:1 Gain:1 Lost:2
ENSBTAG00000001941_BTJE	SEMA4D	3	109	-0.311	-0.008559633	Gain:3
ENSBTAG00000020989_BTAN	SUSD4	2	98	-0.419	-0.00855102	Increase:1 Lost:1
ENSBTAG00000014603_BTLM	VAMP1	3	181	-0.515	-0.008535912	Increase:1 Decrease:1 Gain:1
ENSBTAG00000008132_BTAN	SOX13	2	34	-0.144	-0.008470588	Gain:1 Lost:1
ENSBTAG00000008132_BTHO	SOX13	2	34	-0.144	-0.008470588	Gain:1 Lost:1
ENSBTAG00000008132_BTJE	SOX13	2	34	-0.144	-0.008470588	Gain:1 Lost:1
ENSBTAG00000020126_BTHO	MYO10	3	105	-0.296	-0.008457143	Gain:3
ENSBTAG00000021802_BTLM	MIEN1	2	45	-0.19	-0.008444444	Gain:2
ENSBTAG00000011467_BTHO	BATF2	1	23	-0.194	-0.008434783	Gain:1

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000012217_BTHO	PLA2G2F	4	239	-0.499	-0.008351464	Increase:1 Decrease:1 Gain:1 Lost:1
ENSBTAG00000005976_BTLM	HSD17B7	2	93	-0.387	-0.008322581	Gain:1 Lost:1
ENSBTAG00000019138_BTJE	KIF3C	3	191	-0.529	-0.008308901	Gain:2 Lost:1
ENSBTAG00000010938_BTHO	C2H1orf64	1	30	-0.249	-0.0083	Lost:1
ENSBTAG00000021802_BTAN	MIEN1	2	46	-0.19	-0.00826087	Gain:2
ENSBTAG00000021802_BTHO	MIEN1	2	46	-0.19	-0.00826087	Gain:2
ENSBTAG00000021802_BTJE	MIEN1	2	46	-0.19	-0.00826087	Gain:2
ENSBTAG00000010188_BTHO	RDH8	2	68	-0.278	-0.008176471	Gain:2
ENSBTAG00000002069_BTLM	BOLA	1	34	-0.277	-0.008147059	Gain:1
ENSBTAG00000005622_BTHO	LITAF	2	117	-0.476	-0.008136752	Decrease:1 Lost:1
ENSBTAG00000005622_BTLM	LITAF	2	117	-0.476	-0.008136752	Decrease:1 Lost:1
ENSBTAG00000009384_BTJE	AGTRAP	2	60	-0.244	-0.008133333	Decrease:2
ENSBTAG00000000356_BTLM	CCDC137	2	100	-0.406	-0.00812	Increase:1 Gain:1
ENSBTAG00000000528_BTJE	MANBAL	2	36	-0.146	-0.008111111	Gain:2
ENSBTAG00000022004_BTJE	FLNB	2	143	-0.578	-0.008083916	Gain:2
ENSBTAG00000015625_BTJE	DCTN4	2	30	-0.121	-0.008066667	Gain:2
ENSBTAG00000019627_BTHO	THY1	3	132	-0.354	-0.008045455	Decrease:1 Gain:2
ENSBTAG00000012637_BTHO	C11H2orf40	1	21	-0.167	-0.007952381	Lost:1
ENSBTAG00000012608_BTJE	GDAP1	3	182	-0.481	-0.007928571	Increase:1 Gain:1 Lost:1
ENSBTAG00000021779_BTLM	MGST2	3	92	-0.241	-0.007858696	Gain:1 Lost:2
ENSBTAG00000007374_BTJE	LHFPL2	5	229	-0.359	-0.007838428	Increase:1 Decrease:2 Lost:2

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000013105_BTLM	SYT3	2	50	-0.194	-0.00776	Gain:1 Lost:1
ENSBTAG00000017818_BTLM	MOG	3	111	-0.287	-0.007756757	Decrease:1 Gain:2
ENSBTAG00000022825_BTJE	BRI3	1	16	-0.122	-0.007625	Gain:1
ENSBTAG00000010467_BTLM	SUPT5H	1	16	-0.121	-0.0075625	Lost:1
ENSBTAG00000039602_BTJE	KRTAP13-1	1	24	-0.181	-0.007541667	Gain:1
ENSBTAG00000001417_BTAN	ACSM1	1	24	-0.18	-0.0075	Lost:1
ENSBTAG00000004145_BTAN	ANO4	2	107	-0.401	-0.007495327	Decrease:1 Gain:1
ENSBTAG00000004145_BTJE	ANO4	2	108	-0.401	-0.007425926	Decrease:1 Gain:1
ENSBTAG00000018201_BTHO	DAK	1	47	-0.349	-0.007425532	Lost:1
ENSBTAG00000016527_BTJE	C28H10orf35	1	33	-0.243	-0.007363636	Gain:1
ENSBTAG00000009363_BTAN	GINS3	2	110	-0.401	-0.007290909	Gain:1 Lost:1
ENSBTAG00000031871_BTHO	NKAPL	4	150	-0.271	-0.007226667	Gain:2 Lost:2
ENSBTAG00000003774_BTJE	C8A	1	36	-0.26	-0.007222222	Gain:1
ENSBTAG00000032997_BTHO	LOR	1	23	-0.166	-0.007217391	Gain:1
ENSBTAG00000021120_BTJE	SMYD1	3	222	-0.529	-0.007148649	Increase:1 Gain:1 Lost:1
ENSBTAG00000016527_BTLM	C28H10orf35	1	34	-0.243	-0.007147059	Gain:1
ENSBTAG00000017943_BTHO	GALNT6	3	119	-0.28	-0.007058824	Decrease:1 Gain:1 Lost:1
ENSBTAG00000017943_BTJE	GALNT6	3	120	-0.28	-0.007	Decrease:1 Gain:1 Lost:1
ENSBTAG00000022509_BTRO		1	23	-0.161	-0.007	Gain:1
ENSBTAG00000017537_BTJE	PTGIS	2	70	-0.244	-0.006971429	Lost:2
ENSBTAG00000015979_BTLM	SEZ6	2	94	-0.327	-0.006957447	Increase:2
ENSBTAG00000045748_BTHO	LOC100848301	1	32	-0.221	-0.00690625	Increase:1
ENSBTAG00000012156_BTAN	NAIF1	4	143	-0.246	-0.006881119	Increase:1 Decrease:1 Gain:2

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000012156_BTHO	NAIF1	4	143	-0.246	-0.006881119	Increase:1 Decrease:1 Gain:2
ENSBTAG00000012156_BTLM	NAIF1	4	143	-0.246	-0.006881119	Increase:1 Decrease:1 Gain:2
ENSBTAG00000019608_BTHO	DDX47	1	26	-0.178	-0.006846154	Lost:1
ENSBTAG00000014215_BTLM	CCDC86	2	84	-0.282	-0.006714286	Increase:1 Gain:1
ENSBTAG00000014215_BTJE	CCDC86	2	85	-0.282	-0.006635294	Increase:1 Gain:1
ENSBTAG00000008240_BTAN		1	16	-0.106	-0.006625	Lost:1
ENSBTAG00000008240_BTJE		1	16	-0.106	-0.006625	Lost:1
ENSBTAG00000012217_BTJE	PLA2G2F	4	239	-0.395	-0.006610879	Increase:2 Decrease:1 Lost:1
ENSBTAG00000021901_BTLM	TRPM2	1	27	-0.176	-0.006518519	Lost:1
ENSBTAG00000004004_BTJE	CSDC2	3	170	-0.368	-0.006494118	Increase:2 Gain:1
ENSBTAG00000018020_BTHO	GNAT1	3	164	-0.355	-0.006493902	Increase:3
ENSBTAG00000002985_BTJE	KCNMB1	2	167	-0.54	-0.006467066	Gain:2
ENSBTAG00000035064_BTJE	C4H7orf57	2	68	-0.219	-0.006441176	Gain:2
ENSBTAG00000016217_BTJE	RBM43	3	117	-0.249	-0.006384615	Gain:1 Lost:2
ENSBTAG00000037375_BTJE	ZNF547	2	89	-0.284	-0.006382022	Lost:2
ENSBTAG00000013167_BTJE	SIGLEC1	1	45	-0.286	-0.006355556	Gain:1
ENSBTAG00000001551_BTHO	PLEKHG3	1	43	-0.273	-0.006348837	Lost:1
ENSBTAG00000007932_BTHO	HCK	1	18	-0.114	-0.006333333	Gain:1
ENSBTAG00000003997_BTLM	UBE2D4	2	78	-0.244	-0.00625641	Gain:2
ENSBTAG00000017661_BTLM	RFX2	2	162	-0.503	-0.006209877	Increase:1 Gain:1
ENSBTAG00000001551_BTAN	PLEKHG3	1	44	-0.273	-0.006204545	Lost:1
ENSBTAG00000001551_BTJE	PLEKHG3	1	44	-0.273	-0.006204545	Lost:1
ENSBTAG00000001551_BTLM	PLEKHG3	1	44	-0.273	-0.006204545	Lost:1
ENSBTAG00000003997_BTAN	UBE2D4	2	79	-0.244	-0.006177215	Gain:2
ENSBTAG00000003997_BTJE	UBE2D4	2	79	-0.244	-0.006177215	Gain:2
ENSBTAG00000010667_BTLM	PIK3IP1	3	133	-0.271	-0.006112782	Increase:3

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000010667_BTAN	PIK3IP1	3	134	-0.271	-0.006067164	Increase:3
ENSBTAG00000013755_BTHO	ITGB5	1	28	-0.169	-0.006035714	Lost:1
ENSBTAG00000001055_BTHO	HNRNPL	2	51	-0.152	-0.005960784	Lost:2
ENSBTAG00000014729_BTJE	MRPL51	4	157	-0.233	-0.005936306	Gain:1 Lost:3
ENSBTAG00000022721_BTJE	SLC25A38	2	110	-0.325	-0.005909091	Decrease:1 Gain:1
ENSBTAG00000020023_BTLM	MTHFS	2	111	-0.327	-0.005891892	Lost:2
ENSBTAG00000005034_BTJE	CAPN5	4	244	-0.359	-0.005885246	Decrease:2 Gain:2
ENSBTAG00000005034_BTLM	CAPN5	4	244	-0.359	-0.005885246	Decrease:2 Gain:2
ENSBTAG00000020023_BTJE	MTHFS	2	112	-0.327	-0.005839286	Lost:2
ENSBTAG00000013755_BTLM	ITGB5	1	29	-0.169	-0.005827586	Lost:1
ENSBTAG00000015580_BTHO	TLE3	2	114	-0.332	-0.005824561	Increase:1 Decrease:1
ENSBTAG00000013912_BTAN	TXNRD1	2	153	-0.444	-0.005803922	Decrease:1 Gain:1
ENSBTAG00000020184_BTJE	AQP8	2	82	-0.236	-0.005756098	Decrease:1 Gain:1
ENSBTAG00000009655_BTAN	TNS3	1	19	-0.109	-0.005736842	Gain:1
ENSBTAG00000008074_BTAN	C1QTNF6	3	211	-0.403	-0.005729858	Decrease:1 Gain:2
ENSBTAG00000008074_BTHO	C1QTNF6	3	212	-0.403	-0.00570283	Decrease:1 Gain:2
ENSBTAG00000008074_BTLM	C1QTNF6	3	212	-0.403	-0.00570283	Decrease:1 Gain:2
ENSBTAG00000005419_BTJE	ABP1	1	63	-0.359	-0.005698413	Lost:1
ENSBTAG00000010812_BTAN	P2RX4	2	66	-0.188	-0.00569697	Gain:2
ENSBTAG00000013341_BTAN	GYG2	1	24	-0.135	-0.005625	Gain:1
ENSBTAG00000007374_BTLM	LHFPL2	4	229	-0.322	-0.005624454	Decrease:3 Lost:1
ENSBTAG00000005419_BTAN	ABP1	1	64	-0.359	-0.005609375	Lost:1
ENSBTAG00000005419_BTLM	ABP1	1	64	-0.359	-0.005609375	Lost:1
ENSBTAG00000019107_BTLM	GAS7	2	154	-0.431	-0.005597403	Decrease:1 Gain:1

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000016208_BTLM	TGM2	4	185	-0.258	-0.005578378	Gain:1 Lost:3
ENSBTAG00000032908_BTLM	C10H14orf176	1	57	-0.314	-0.005508772	Lost:1
ENSBTAG00000000961_BTLM	NEURL2	1	71	-0.391	-0.005507042	Increase:1
ENSBTAG00000007906_BTLM	ZACN	2	88	-0.242	-0.0055	Gain:1 Lost:1
ENSBTAG00000014284_BTLM	ALPK2	1	32	-0.175	-0.00546875	Decrease:1
ENSBTAG00000013705_BTHO	NFKBIE	1	41	-0.224	-0.005463415	Lost:1
ENSBTAG00000019082_BTAN	RAD51D	1	66	-0.36	-0.005454545	Lost:1
ENSBTAG00000009655_BTJE	TNS3	1	20	-0.109	-0.00545	Gain:1
ENSBTAG00000009655_BTLM	TNS3	1	20	-0.109	-0.00545	Gain:1
ENSBTAG00000006801_BTHO	TMEM106A	2	100	-0.272	-0.00544	Decrease:1 Lost:1
ENSBTAG00000006801_BTJE	TMEM106A	2	100	-0.272	-0.00544	Decrease:1 Lost:1
ENSBTAG00000006801_BTLM	TMEM106A	2	100	-0.272	-0.00544	Decrease:1 Lost:1
ENSBTAG00000007828_BTLM	SLA	3	166	-0.301	-0.005439759	Decrease:1 Gain:1 Lost:1
ENSBTAG00000010704_BTLM	LRRC4	1	33	-0.179	-0.005424242	Lost:1
ENSBTAG00000009294_BTAN	DEGS2	1	17	-0.092	-0.005411765	Gain:1
ENSBTAG00000017855_BTHO	ITM2C	2	112	-0.303	-0.005410714	Decrease:1 Gain:1
ENSBTAG00000047551_BTHO	IFNT2	1	39	-0.211	-0.005410256	Gain:1
ENSBTAG00000047551_BTJE	IFNT2	1	39	-0.211	-0.005410256	Gain:1
ENSBTAG00000018488_BTHO	AFF1	2	79	-0.213	-0.005392405	Gain:1 Lost:1
ENSBTAG00000037729_BTHO	CERS1	1	31	-0.166	-0.005354839	Gain:1
ENSBTAG00000013705_BTJE	NFKBIE	1	42	-0.224	-0.005333333	Lost:1
ENSBTAG00000013705_BTLM	NFKBIE	1	42	-0.224	-0.005333333	Lost:1
ENSBTAG00000010590_BTHO	FAM118A	2	98	-0.261	-0.005326531	Decrease:2
ENSBTAG00000018488_BTLM	AFF1	2	80	-0.213	-0.005325	Gain:1 Lost:1

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000001066_BTJE	PILRA	3	134	-0.236	-0.005283582	Increase:1 Gain:1 Lost:1
ENSBTAG00000017711_BTJE	WHAMM	2	83	-0.219	-0.005277108	Increase:1 Lost:1
ENSBTAG00000015043_BTJE	MFNG	2	71	-0.186	-0.005239437	Gain:1 Lost:1
ENSBTAG00000017711_BTAN	WHAMM	2	84	-0.219	-0.005214286	Increase:1 Lost:1
ENSBTAG00000017711_BTLM	WHAMM	2	84	-0.219	-0.005214286	Increase:1 Lost:1
ENSBTAG00000037729_BTJE	CERS1	1	32	-0.166	-0.0051875	Gain:1
ENSBTAG00000001254_BTLM	ANKRD46	2	135	-0.35	-0.005185185	Lost:2
ENSBTAG00000019107_BTHO	GAS7	3	155	-0.266	-0.005148387	Decrease:2 Gain:1
ENSBTAG00000031718_BTLM	OGFR	1	26	-0.133	-0.005115385	Lost:1
ENSBTAG00000011454_BTHO	FKBP10	1	20	-0.102	-0.0051	Lost:1
ENSBTAG00000011454_BTLM	FKBP10	1	20	-0.102	-0.0051	Lost:1
ENSBTAG00000045834_BTHO	RASSF7	1	39	-0.198	-0.005076923	Gain:1
ENSBTAG00000005678_BTHO	AACS	2	80	-0.203	-0.005075	Lost:2
ENSBTAG00000001562_BTLM	NFE2	1	16	-0.081	-0.0050625	Gain:1
ENSBTAG00000027665_BTAN	BRF2	1	46	-0.231	-0.005021739	Lost:1
ENSBTAG00000003711_BTJE	EPAS1	3	172	-0.287	-0.005005814	Lost:3
ENSBTAG00000002352_BTJE	GGA2	2	104	-0.26	-0.005	Gain:2
ENSBTAG00000021523_BTLM	STAT3	2	149	-0.371	-0.004979866	Increase:1 Lost:1
ENSBTAG00000013614_BTAN	TMEM38A	3	135	-0.224	-0.004977778	Lost:3
ENSBTAG00000003711_BTLM	EPAS1	3	173	-0.287	-0.004976879	Lost:3
ENSBTAG00000015655_BTAN	APBB1	1	36	-0.179	-0.004972222	Lost:1
ENSBTAG00000045834_BTJE	RASSF7	1	40	-0.198	-0.00495	Gain:1
ENSBTAG00000045834_BTLM	RASSF7	1	40	-0.198	-0.00495	Gain:1
ENSBTAG00000013614_BTHO	TMEM38A	3	136	-0.224	-0.004941176	Lost:3
ENSBTAG00000031718_BTAN	OGFR	1	27	-0.133	-0.004925926	Lost:1
ENSBTAG00000031718_BTHO	OGFR	1	27	-0.133	-0.004925926	Lost:1
ENSBTAG00000020395_BTHO	LYSMD1	2	90	-0.221	-0.004911111	Gain:2
ENSBTAG00000004199_BTLM	DIABLO	2	65	-0.159	-0.004892308	Decrease:1 Lost:1

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000007599_BTLM	IKBKB	2	111	-0.269	-0.004846847	Lost:2
ENSBTAG00000012156_BTJE	NAIF1	3	143	-0.231	-0.004846154	Increase:1 Decrease:1 Gain:1
ENSBTAG00000021107_BTJE	STXBP5	1	56	-0.271	-0.004839286	Gain:1
ENSBTAG00000004237_BTHO	BTC	2	157	-0.378	-0.004815287	Gain:1 Lost:1
ENSBTAG00000010171_BTJE	JOSD1	3	198	-0.311	-0.004712121	Lost:3
ENSBTAG00000015185_BTJE	MRGPRF	1	44	-0.207	-0.004704545	Lost:1
ENSBTAG00000017056_BTJE	PKLR	3	118	-0.185	-0.00470339	Gain:3
ENSBTAG00000007246_BTJE	TMEM204	1	26	-0.122	-0.004692308	Lost:1
ENSBTAG00000044171_BTHO	CNIH3	1	35	-0.162	-0.004628571	Lost:1
ENSBTAG00000017713_BTLM	KTN1	1	29	-0.134	-0.00462069	Gain:1
ENSBTAG00000017871_BTLM	GNA12	1	24	-0.11	-0.004583333	Gain:1
ENSBTAG00000000016_BTJE	LTA	1	59	-0.27	-0.004576271	Lost:1
ENSBTAG00000031348_BTJE	CCR9	1	63	-0.287	-0.004555556	Lost:1
ENSBTAG00000006371_BTLM	RMND5B	1	44	-0.199	-0.004522727	Gain:1
ENSBTAG00000007246_BTAN	TMEM204	1	27	-0.122	-0.004518519	Lost:1
ENSBTAG00000013869_BTHO	SH3BP4	3	135	-0.203	-0.004511111	Gain:3
ENSBTAG00000004237_BTLM	BTC	3	159	-0.239	-0.004509434	Increase:3
ENSBTAG00000011692_BTHO	C25H16orf45	3	225	-0.337	-0.004493333	Increase:2 Gain:1
ENSBTAG00000006371_BTJE	RMND5B	1	45	-0.199	-0.004422222	Gain:1
ENSBTAG00000009568_BTLM	KANK2	1	20	-0.088	-0.0044	Gain:1
ENSBTAG00000017550_BTJE	CSNK1G3	2	178	-0.389	-0.004370787	Increase:2
ENSBTAG00000046160_BTJE	C23H6orf228	2	223	-0.487	-0.004367713	Gain:1 Lost:1
ENSBTAG00000046160_BTLM	C23H6orf228	2	224	-0.487	-0.004348214	Gain:1 Lost:1
ENSBTAG00000007678_BTHO	MKX	1	31	-0.134	-0.004322581	Gain:1
ENSBTAG00000019138_BTAN	KIF3C	3	190	-0.272	-0.004294737	Decrease:2 Lost:1
ENSBTAG00000016823_BTAN	CSNK1G1	2	106	-0.227	-0.004283019	Decrease:1 Lost:1
ENSBTAG00000039493_BTLM	ZNF177	2	93	-0.198	-0.004258065	Lost:2
ENSBTAG00000005589_BTLM	STK19	1	32	-0.136	-0.00425	Lost:1

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000016823_BTHO	CSNK1G1	2	107	-0.227	-0.004242991	Decrease:1 Lost:1
ENSBTAG00000016823_BTJE	CSNK1G1	2	107	-0.227	-0.004242991	Decrease:1 Lost:1
ENSBTAG00000016823_BTLM	CSNK1G1	2	107	-0.227	-0.004242991	Decrease:1 Lost:1
ENSBTAG00000010738_BTHO	CCL14	1	59	-0.25	-0.004237288	Gain:1
ENSBTAG00000010738_BTJE	CCL14	1	59	-0.25	-0.004237288	Gain:1
ENSBTAG00000000179_BTLM	RPUSD1	2	92	-0.193	-0.004195652	Lost:2
ENSBTAG00000007678_BTJE	MKX	1	32	-0.134	-0.0041875	Gain:1
ENSBTAG00000018535_BTJE	CDK5RAP1	1	22	-0.092	-0.004181818	Gain:1
ENSBTAG00000004979_BTJE	MRS2	2	192	-0.401	-0.004177083	Lost:2
ENSBTAG00000021902_BTHO	ALDH5A1	2	134	-0.279	-0.004164179	Gain:1 Lost:1
ENSBTAG00000003297_BTJE	OASL	1	72	-0.299	-0.004152778	Lost:1
ENSBTAG00000003954_BTJE	ASH1L	3	194	-0.267	-0.004128866	Gain:3
ENSBTAG00000021808_BTJE	CACNB3	2	119	-0.244	-0.00410084	Gain:2
ENSBTAG00000003297_BTHO	OASL	1	73	-0.299	-0.00409589	Lost:1
ENSBTAG00000006966_BTLM	NRM	1	44	-0.18	-0.004090909	Lost:1
ENSBTAG00000021808_BTAN	CACNB3	2	120	-0.244	-0.004066667	Gain:2
ENSBTAG00000010878_BTJE		1	18	-0.073	-0.004055556	Lost:1
ENSBTAG00000009770_BTLM	GPD2	1	73	-0.296	-0.004054795	Gain:1
ENSBTAG00000038286_BTJE	C14H8orf22	2	135	-0.27	-0.004	Decrease:1 Gain:1
ENSBTAG00000013874_BTJE	C18H16orf80	1	26	-0.103	-0.003961538	Lost:1
ENSBTAG00000018772_BTAN	TAF1C	1	47	-0.186	-0.003957447	Increase:1
ENSBTAG00000004541_BTHO	LPAR5	1	38	-0.15	-0.003947368	Gain:1
ENSBTAG00000011991_BTLM	DRGX	1	38	-0.149	-0.003921053	Lost:1
ENSBTAG00000047502_BTJE	FKBP5	2	185	-0.362	-0.003913514	Decrease:1 Lost:1
ENSBTAG00000008195_BTHO	PHKG1	1	75	-0.292	-0.003893333	Increase:1
ENSBTAG00000013750_BTHO	B3GALNT2	1	30	-0.116	-0.003866667	Lost:1
ENSBTAG00000033278_BTLM	F2RL3	1	39	-0.15	-0.003846154	Gain:1
ENSBTAG00000007190_BTJE	THAP6	2	217	-0.412	-0.003797235	Gain:2
ENSBTAG00000008550_BTHO	GIMAP7	1	42	-0.159	-0.003785714	Gain:1
ENSBTAG00000013750_BTLM	B3GALNT2	1	31	-0.116	-0.003741935	Lost:1
ENSBTAG00000018637_BTLM	HDDC3	1	68	-0.254	-0.003735294	Lost:1

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000003595_BTHO	FAM216B	2	57	-0.106	-0.003719298	Increase:2
ENSBTAG00000001928_BTJE	PDIA6	1	47	-0.174	-0.003702128	Gain:1
ENSBTAG00000016389_BTHO	UBL4B	1	94	-0.348	-0.003702128	Gain:1
ENSBTAG00000018637_BTAN	HDDC3	1	69	-0.254	-0.003681159	Lost:1
ENSBTAG00000019181_BTJE	LOC615412	1	18	-0.066	-0.003666667	Lost:1
ENSBTAG00000018576_BTLM	DPYSL5	3	239	-0.29	-0.003640167	Increase:2 Gain:1
ENSBTAG00000018375_BTHO	ATCAY	1	33	-0.12	-0.003636364	Gain:1
ENSBTAG00000018375_BTLM	ATCAY	1	33	-0.12	-0.003636364	Gain:1
ENSBTAG00000027064_BTAN	BTBD11	1	46	-0.167	-0.003630435	Increase:1
ENSBTAG00000018576_BTHO	DPYSL5	3	240	-0.29	-0.003625	Increase:2 Gain:1
ENSBTAG00000018576_BTJE	DPYSL5	3	240	-0.29	-0.003625	Increase:2 Gain:1
ENSBTAG00000009233_BTHO	RAC1	1	34	-0.123	-0.003617647	Lost:1
ENSBTAG00000000087_BTJE	HSD17B12	2	133	-0.24	-0.003609023	Decrease:1 Lost:1
ENSBTAG00000005859_BTHO	LALBA	1	30	-0.108	-0.0036	Lost:1
ENSBTAG00000014620_BTJE	FOXI1	2	60	-0.106	-0.003533333	Gain:1 Lost:1
ENSBTAG00000031575_BTHO	VAV3	1	85	-0.299	-0.003517647	Gain:1
ENSBTAG00000031575_BTLM	VAV3	1	85	-0.299	-0.003517647	Gain:1
ENSBTAG00000047040_BTJE	SERPINA3-3	1	36	-0.126	-0.0035	Gain:1
ENSBTAG00000023374_BTJE	FUT1	2	106	-0.185	-0.003490566	Gain:1 Lost:1
ENSBTAG00000024822_BTLM	SETX	1	31	-0.108	-0.003483871	Gain:1
ENSBTAG00000002879_BTJE	DCPS	3	162	-0.187	-0.003462963	Lost:3
ENSBTAG00000006716_BTLM	PTGS1	1	48	-0.165	-0.0034375	Lost:1
ENSBTAG00000000706_BTLM	ADAMTS1	1	68	-0.233	-0.003426471	Increase:1
ENSBTAG00000014821_BTLM	SLC7A7	1	38	-0.13	-0.003421053	Gain:1
ENSBTAG00000039071_BTJE	ANKRD16	1	46	-0.157	-0.003413043	Lost:1
ENSBTAG00000013573_BTHO	BIRC5	1	101	-0.344	-0.003405941	Decrease:1
ENSBTAG00000013573_BTJE	BIRC5	1	101	-0.344	-0.003405941	Decrease:1
ENSBTAG00000047040_BTLM	SERPINA3-3	1	37	-0.126	-0.003405405	Gain:1

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000001183_BTHO	KLHL33	2	173	-0.294	-0.003398844	Gain:1 Lost:1
ENSBTAG00000001183_BTLM	KLHL33	2	173	-0.294	-0.003398844	Gain:1 Lost:1
ENSBTAG00000014501_BTJE	FERMT2	1	97	-0.326	-0.003360825	Gain:1
ENSBTAG00000038869_BTAN	ZNF383	1	71	-0.238	-0.003352113	Gain:1
ENSBTAG00000009328_BTHO	NWD1	2	168	-0.281	-0.003345238	Decrease:1 Lost:1
ENSBTAG00000025494_BTHO	PAQR8	2	157	-0.26	-0.003312102	Decrease:1 Gain:1
ENSBTAG00000034978_BTHO	FAM168B	2	226	-0.373	-0.003300885	Decrease:1 Lost:1
ENSBTAG00000034978_BTLM	FAM168B	2	226	-0.373	-0.003300885	Decrease:1 Lost:1
ENSBTAG00000021120_BTHO	SMYD1	2	222	-0.362	-0.003261261	Increase:1 Gain:1
ENSBTAG00000011543_BTAN	PDCD1	1	64	-0.208	-0.00325	Lost:1
ENSBTAG00000014343_BTJE	RABL5	1	44	-0.143	-0.00325	Gain:1
ENSBTAG00000030711_BTLM	MGC148293	1	63	-0.204	-0.003238095	Increase:1
ENSBTAG00000000355_BTJE	OXLD1	2	86	-0.139	-0.003232558	Gain:1 Lost:1
ENSBTAG00000014873_BTJE	COA5	1	36	-0.116	-0.003222222	Lost:1
ENSBTAG00000011543_BTHO	PDCD1	1	65	-0.208	-0.0032	Lost:1
ENSBTAG00000010916_BTJE	LHFPL4	2	258	-0.411	-0.003186047	Gain:2
ENSBTAG00000008190_BTHO	SUMF2	1	69	-0.219	-0.003173913	Lost:1
ENSBTAG00000018535_BTHO	CDK5RAP1	1	21	-0.066	-0.003142857	Gain:1
ENSBTAG00000021934_BTJE	RETSAT	2	102	-0.16	-0.003137255	Decrease:2
ENSBTAG00000021934_BTLM	RETSAT	2	102	-0.16	-0.003137255	Decrease:2
ENSBTAG00000007374_BTAN	LHFPL2	3	231	-0.241	-0.00312987	Increase:1 Decrease:1 Lost:1
ENSBTAG00000027453_BTJE	RNF4	4	171	-0.131	-0.003064327	Increase:1 Decrease:1 Gain:1 Lost:1

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000019557_BTJE	NR1I2	1	64	-0.195	-0.003046875	Gain:1
ENSBTAG00000027453_BTLM	RNF4	4	172	-0.131	-0.003046512	Increase:1 Decrease:1 Gain:1 Lost:1
ENSBTAG00000011023_BTLM	C5H12orf59	2	160	-0.242	-0.003025	Decrease:1 Lost:1
ENSBTAG00000018123_BTJE	FBLN5	1	63	-0.19	-0.003015873	Increase:1
ENSBTAG00000011023_BTHO	C5H12orf59	2	161	-0.242	-0.003006211	Decrease:1 Lost:1
ENSBTAG00000001385_BTHO	ZSCAN2	1	70	-0.21	-0.003	Gain:1
ENSBTAG00000020633_BTHO	NOB1	1	27	-0.081	-0.003	Lost:1
ENSBTAG00000038263_BTLM	CD1A	1	40	-0.119	-0.002975	Gain:1
ENSBTAG00000020356_BTLM	GON4L	1	34	-0.101	-0.002970588	Increase:1
ENSBTAG00000018123_BTHO	FBLN5	1	64	-0.19	-0.00296875	Increase:1
ENSBTAG00000018123_BTLM	FBLN5	1	64	-0.19	-0.00296875	Increase:1
ENSBTAG00000010667_BTHO	PIK3IP1	2	133	-0.197	-0.002962406	Gain:1 Lost:1
ENSBTAG00000004328_BTLM	CHST10	1	137	-0.403	-0.002941606	Decrease:1
ENSBTAG00000000910_BTLM	SLC6A7	2	145	-0.209	-0.002882759	Gain:2
ENSBTAG00000001030_BTLM	MTMR3	3	236	-0.226	-0.002872881	Decrease:1 Gain:1 Lost:1
ENSBTAG00000001725_BTJE	CXCL10	2	101	-0.144	-0.002851485	Lost:2
ENSBTAG00000014237_BTHO	CYTH4	2	212	-0.302	-0.002849057	Gain:2
ENSBTAG00000017872_BTLM	ZNF304	1	78	-0.222	-0.002846154	Lost:1
ENSBTAG00000001725_BTHO	CXCL10	2	102	-0.144	-0.002823529	Lost:2
ENSBTAG00000017162_BTLM	STK39	1	39	-0.11	-0.002820513	Increase:1
ENSBTAG00000001744_BTLM	BET1L	2	188	-0.265	-0.002819149	Gain:1 Lost:1
ENSBTAG00000000355_BTHO	OXLD1	1	86	-0.242	-0.002813953	Gain:1
ENSBTAG00000045588_BTRO	BST2B	1	145	-0.408	-0.002813793	Decrease:1
ENSBTAG00000018722_BTJE	PLEKHM2	1	64	-0.18	-0.0028125	Decrease:1

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000009236_BTAN	DAGLB	2	180	-0.249	-0.002766667	Gain:1 Lost:1
ENSBTAG00000038268_BTLM	GPR183	1	30	-0.083	-0.002766667	Gain:1
ENSBTAG00000005034_BTHO	CAPN5	3	244	-0.224	-0.002754098	Decrease:2 Gain:1
ENSBTAG00000004791_BTJE	DSCR3	2	163	-0.223	-0.002736196	Decrease:1 Gain:1
ENSBTAG00000002282_BTLM	EIF1	1	102	-0.279	-0.002735294	Decrease:1
ENSBTAG00000013907_BTJE	CRP	2	185	-0.253	-0.002735135	Increase:1 Decrease:1
ENSBTAG00000002282_BTHO	EIF1	1	103	-0.279	-0.002708738	Decrease:1
ENSBTAG00000040512_BTAN	PCP4L1	1	82	-0.222	-0.002707317	Gain:1
ENSBTAG00000009213_BTJE	TOMM40L	2	122	-0.164	-0.002688525	Decrease:2
ENSBTAG00000016501_BTHO	ARHGAP1	2	152	-0.203	-0.002671053	Increase:2
ENSBTAG00000009213_BTLM	TOMM40L	2	123	-0.164	-0.002666667	Decrease:2
ENSBTAG00000000431_BTAN		1	39	-0.103	-0.002641026	Gain:1
ENSBTAG00000037489_BTJE	CRCP	1	58	-0.153	-0.002637931	Gain:1
ENSBTAG00000007307_BTAN	SELE	1	90	-0.237	-0.002633333	Lost:1
ENSBTAG00000011832_BTJE	ALDH18A1	1	47	-0.123	-0.002617021	Gain:1
ENSBTAG00000027625_BTLM	SFRP1	2	167	-0.218	-0.002610778	Gain:1 Lost:1
ENSBTAG00000007307_BTJE	SELE	1	91	-0.237	-0.002604396	Lost:1
ENSBTAG00000007307_BTLM	SELE	1	91	-0.237	-0.002604396	Lost:1
ENSBTAG00000013764_BTAN	OPTC	1	53	-0.137	-0.002584906	Increase:1
ENSBTAG00000002103_BTJE	PLCG2	1	45	-0.115	-0.002555556	Gain:1
ENSBTAG00000035785_BTJE	LOC786246	2	144	-0.184	-0.002555556	Gain:2
ENSBTAG00000019870_BTJE	SLC14A1	1	137	-0.35	-0.002554745	Gain:1
ENSBTAG00000020650_BTLM	ADCYAP1	2	114	-0.145	-0.00254386	Gain:1 Lost:1
ENSBTAG00000017753_BTHO	APP	1	82	-0.208	-0.002536585	Gain:1
ENSBTAG00000017753_BTJE	APP	1	82	-0.208	-0.002536585	Gain:1
ENSBTAG00000011798_BTJE	STK38L	2	170	-0.215	-0.002529412	Lost:2
ENSBTAG00000007954_BTHO	CDIPT	1	40	-0.101	-0.002525	Lost:1

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Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000026242_BTLM	BAALC	1	100	-0.252	-0.00252	Lost:1
ENSBTAG00000000742_BTLM	AMOTL2	1	49	-0.123	-0.002510204	Decrease:1
ENSBTAG00000044184_BTLM	TUBGCP3	1	53	-0.133	-0.002509434	Gain:1
ENSBTAG00000008167_BTAN	TTC3	1	118	-0.296	-0.002508475	Gain:1
ENSBTAG00000026242_BTHO	BAALC	1	101	-0.252	-0.00249505	Lost:1
ENSBTAG00000026242_BTJE	BAALC	1	101	-0.252	-0.00249505	Lost:1
ENSBTAG00000044075_BTHO	LOC100138613	1	64	-0.159	-0.002484375	Decrease:1
ENSBTAG00000007954_BTAN	CDIPT	1	41	-0.101	-0.002463415	Lost:1
ENSBTAG00000000742_BTJE	AMOTL2	1	50	-0.123	-0.00246	Decrease:1
ENSBTAG00000014089_BTAN	PPCDC	1	54	-0.132	-0.002444444	Decrease:1
ENSBTAG00000009337_BTJE	PNMAL1	2	146	-0.178	-0.002438356	Increase:1 Lost:1
ENSBTAG00000009337_BTLM	PNMAL1	2	147	-0.178	-0.002421769	Increase:1 Lost:1
ENSBTAG00000024470_BTJE	SH2D2A	2	92	-0.111	-0.002413043	Gain:1 Lost:1
ENSBTAG00000016770_BTJE	GAPT	1	69	-0.164	-0.002376812	Increase:1
ENSBTAG00000005976_BTHO	HSD17B7	1	94	-0.219	-0.002329787	Lost:1
ENSBTAG00000020119_BTHO	RNF43	1	82	-0.191	-0.002329268	Lost:1
ENSBTAG00000019636_BTHO	SCARA5	5	164	-0.076	-0.002317073	Decrease:5
ENSBTAG00000001527_BTJE	TMEM213	1	105	-0.242	-0.002304762	Lost:1
ENSBTAG00000014377_BTHO	CHD3	1	103	-0.237	-0.002300971	Decrease:1
ENSBTAG00000005719_BTLM	GJB4	1	14	-0.032	-0.002285714	Gain:1
ENSBTAG00000014981_BTLM	OTUB2	2	173	-0.197	-0.002277457	Gain:1 Lost:1
ENSBTAG00000015478_BTHO	SRD5A1	1	142	-0.323	-0.002274648	Lost:1
ENSBTAG00000012630_BTHO	PAMR1	1	63	-0.143	-0.002269841	Lost:1
ENSBTAG00000004715_BTJE	AKIRIN1	2	211	-0.238	-0.002255924	Increase:2
ENSBTAG00000014523_BTJE	DIRAS2	2	112	-0.125	-0.002232143	Gain:2
ENSBTAG00000016744_BTJE	CAPRIN1	1	90	-0.2	-0.002222222	Decrease:1

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000017179_BTLM	USP12	2	181	-0.195	-0.002154696	Lost:2
ENSBTAG00000017179_BTAN	USP12	2	182	-0.195	-0.002142857	Lost:2
ENSBTAG00000017814_BTHO	LGI4	1	36	-0.076	-0.002111111	Gain:1
ENSBTAG00000021115_BTLM	ZNF692	1	66	-0.139	-0.002106061	Gain:1
ENSBTAG00000018097_BTHO	PARN	1	68	-0.143	-0.002102941	Lost:1
ENSBTAG00000011103_BTJE	SLC24A6	1	105	-0.218	-0.00207619	Gain:1
ENSBTAG00000003954_BTLM	ASH1L	2	193	-0.2	-0.002072539	Gain:2
ENSBTAG00000018806_BTJE	PSRC1	2	61	-0.063	-0.002065574	Gain:2
ENSBTAG00000011103_BTAN	SLC24A6	1	106	-0.218	-0.002056604	Gain:1
ENSBTAG00000006573_BTLM	KLHL18	2	192	-0.196	-0.002041667	Gain:1 Lost:1
ENSBTAG00000025898_BTJE	TBC1D8	1	62	-0.126	-0.002032258	Lost:1
ENSBTAG00000039161_BTLM	ALDH3A2	1	162	-0.329	-0.002030864	Gain:1
ENSBTAG00000013368_BTJE	ANKRD22	1	72	-0.146	-0.002027778	Gain:1
ENSBTAG00000011445_BTHO	TMEM8B	1	64	-0.129	-0.002015625	Lost:1
ENSBTAG00000001567_BTJE	LRRK1	1	91	-0.183	-0.002010989	Lost:1
ENSBTAG00000001567_BTLM	LRRK1	1	91	-0.183	-0.002010989	Lost:1
ENSBTAG00000010555_BTLM	C4H7orf53	1	32	-0.064	-0.002	Lost:1
ENSBTAG00000025898_BTLM	TBC1D8	1	63	-0.126	-0.002	Lost:1
ENSBTAG00000039695_BTLM	PPP1R18	2	87	-0.087	-0.002	Gain:1 Lost:1
ENSBTAG00000003443_BTAN	USP46	2	218	-0.216	-0.001981651	Decrease:1 Lost:1
ENSBTAG00000021570_BTHO	PLEKHG4	1	47	-0.093	-0.001978723	Gain:1
ENSBTAG00000000387_BTLM	NICN1	1	112	-0.218	-0.001946429	Gain:1
ENSBTAG00000019092_BTHO	FNDC8	1	37	-0.072	-0.001945946	Lost:1
ENSBTAG00000021570_BTLM	PLEKHG4	1	48	-0.093	-0.0019375	Gain:1
ENSBTAG00000021570_BTRO	PLEKHG4	1	48	-0.093	-0.0019375	Gain:1
ENSBTAG00000038415_BTHO	SLC6A12	1	83	-0.16	-0.001927711	Lost:1
ENSBTAG00000009886_BTLM	KDELR3	1	64	-0.123	-0.001921875	Lost:1
ENSBTAG00000019406_BTLM	IGF2BP3	2	132	-0.126	-0.001909091	Lost:2
ENSBTAG00000013093_BTHO	ALDH3B1	1	54	-0.103	-0.001907407	Lost:1
ENSBTAG00000013492_BTHO	PRKAG3	1	103	-0.196	-0.001902913	Decrease:1
ENSBTAG00000013492_BTLM	PRKAG3	1	103	-0.196	-0.001902913	Decrease:1
ENSBTAG00000011387_BTHO	NAT9	1	153	-0.291	-0.001901961	Increase:1

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000018020_BTAN	GNAT1	2	161	-0.153	-0.001900621	Lost:2
ENSBTAG00000037640_BTHO	PID1	2	156	-0.148	-0.001897436	Gain:2
ENSBTAG00000011740_BTLM	OPALIN	1	127	-0.24	-0.001889764	Lost:1
ENSBTAG00000018020_BTJE	GNAT1	2	162	-0.153	-0.001888889	Lost:2
ENSBTAG00000005225_BTAN	RAD52	1	65	-0.122	-0.001876923	Lost:1
ENSBTAG00000017459_BTJE	DUSP18	2	193	-0.181	-0.001875648	Gain:2
ENSBTAG00000030393_BTLM	RDH13	1	154	-0.288	-0.00187013	Lost:1
ENSBTAG00000005682_BTJE	UBAC2	1	107	-0.199	-0.001859813	Gain:1
ENSBTAG00000005225_BTHO	RAD52	1	66	-0.122	-0.001848485	Lost:1
ENSBTAG00000005225_BTJE	RAD52	1	66	-0.122	-0.001848485	Lost:1
ENSBTAG00000005225_BTLM	RAD52	1	66	-0.122	-0.001848485	Lost:1
ENSBTAG00000031473_BTJE	ORC2	1	127	-0.232	-0.001826772	Decrease:1
ENSBTAG00000000382_BTAN	MED27	1	34	-0.062	-0.001823529	Gain:1
ENSBTAG00000008109_BTLM	TMEM97	1	75	-0.135	-0.0018	Gain:1
ENSBTAG00000005985_BTJE	CBLN2	1	110	-0.197	-0.001790909	Gain:1
ENSBTAG00000017287_BTHO	DRAM1	2	152	-0.136	-0.001789474	Gain:1 Lost:1
ENSBTAG00000000653_BTJE	PPP1R16B	4	276	-0.123	-0.001782609	Increase:1 Decrease:1 Gain:1 Lost:1
ENSBTAG00000010103_BTJE	TRIM9	1	66	-0.117	-0.001772727	Decrease:1
ENSBTAG00000002039_BTJE	FRMD8	1	157	-0.276	-0.001757962	Increase:1
ENSBTAG00000017602_BTJE	TMEM45B	1	70	-0.123	-0.001757143	Lost:1
ENSBTAG00000033690_BTJE	BARD1	1	59	-0.103	-0.001745763	Gain:1
ENSBTAG00000019967_BTHO	RASA3	1	105	-0.183	-0.001742857	Lost:1
ENSBTAG00000011937_BTJE	C17H12orf52	1	49	-0.085	-0.001734694	Gain:1
ENSBTAG00000018097_BTLM	PARN	1	69	-0.117	-0.001695652	Lost:1
ENSBTAG00000018097_BTRO	PARN	1	69	-0.117	-0.001695652	Lost:1
ENSBTAG00000011001_BTHO	ERG	1	116	-0.196	-0.001689655	Gain:1
ENSBTAG00000000356_BTAN	CCDC137	1	99	-0.167	-0.001686869	Increase:1
ENSBTAG00000009886_BTHO	KDELR3	1	64	-0.107	-0.001671875	Lost:1
ENSBTAG00000000356_BTJE	CCDC137	1	100	-0.167	-0.00167	Increase:1
ENSBTAG00000009366_BTHO	ARF5	1	34	-0.056	-0.001647059	Lost:1
ENSBTAG00000010401_BTLM	UBE4B	1	51	-0.084	-0.001647059	Lost:1

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000001197_BTHO	SLAMF7	1	73	-0.12	-0.001643836	Gain:1
ENSBTAG00000001197_BTJE	SLAMF7	1	73	-0.12	-0.001643836	Gain:1
ENSBTAG00000001197_BTLM	SLAMF7	1	73	-0.12	-0.001643836	Gain:1
ENSBTAG00000004916_BTHO	ARFGAP1	1	27	-0.044	-0.00162963	Lost:1
ENSBTAG00000009743_BTHO	PDRG1	2	137	-0.11	-0.001605839	Gain:1 Lost:1
ENSBTAG00000009743_BTAN	PDRG1	2	138	-0.11	-0.001594203	Gain:1 Lost:1
ENSBTAG00000034978_BTJE	FAM168B	1	227	-0.36	-0.001585903	Decrease:1
ENSBTAG00000012403_BTJE	ARG1	1	130	-0.206	-0.001584615	Lost:1
ENSBTAG00000035286_BTJE	CMC1	2	184	-0.145	-0.001576087	Decrease:1 Gain:1
ENSBTAG00000044099_BTAN	ZSWIM7	1	75	-0.117	-0.00156	Gain:1
ENSBTAG00000013764_BTHO	OPTC	1	53	-0.082	-0.00154717	Increase:1
ENSBTAG00000013764_BTJE	OPTC	1	53	-0.082	-0.00154717	Increase:1
ENSBTAG00000013764_BTLM	OPTC	1	53	-0.082	-0.00154717	Increase:1
ENSBTAG00000008294_BTLM	KCNJ2	2	193	-0.148	-0.001533679	Decrease:1 Gain:1
ENSBTAG00000020973_BTLM	RFT1	1	65	-0.099	-0.001523077	Increase:1
ENSBTAG00000003439_BTJE	AKAP10	2	163	-0.124	-0.001521472	Gain:1 Lost:1
ENSBTAG00000007977_BTJE	LAMP5	1	62	-0.094	-0.001516129	Lost:1
ENSBTAG00000039246_BTLM	TRIM11	1	119	-0.18	-0.001512605	Increase:1
ENSBTAG00000019138_BTLM	KIF3C	2	191	-0.144	-0.001507853	Decrease:2
ENSBTAG00000012332_BTAN	C11H2orf49	1	170	-0.256	-0.001505882	Decrease:1
ENSBTAG00000012332_BTLM	C11H2orf49	1	170	-0.256	-0.001505882	Decrease:1
ENSBTAG00000019846_BTAN	ALKBH2	1	86	-0.129	-0.0015	Gain:1
ENSBTAG00000031041_BTAN	NHEJ1	1	46	-0.069	-0.0015	Gain:1
ENSBTAG00000031041_BTLM	NHEJ1	1	46	-0.069	-0.0015	Gain:1
ENSBTAG00000012081_BTLM	RBX1	1	94	-0.14	-0.001489362	Gain:1
ENSBTAG00000014491_BTJE	ATP6V1G2	1	89	-0.131	-0.00147191	Gain:1
ENSBTAG00000045794_BTJE	PL-5283	1	145	-0.212	-0.001462069	Gain:1
ENSBTAG00000039714_BTLM	LOC523126	1	129	-0.188	-0.001457364	Lost:1

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000012501_BTJE	FTO	1	143	-0.206	-0.001440559	Gain:1
ENSBTAG00000014151_BTJE	RCSD1	1	142	-0.203	-0.001429577	Lost:1
ENSBTAG00000010812_BTLM	P2RX4	1	66	-0.094	-0.001424242	Gain:1
ENSBTAG00000000329_BTJE	MEGF10	1	117	-0.166	-0.001418803	Gain:1
ENSBTAG00000014546_BTHO	CLEC7A	1	58	-0.081	-0.001396552	Gain:1
ENSBTAG00000013907_BTLM	CRP	3	183	-0.085	-0.001393443	Increase:1 Lost:2
ENSBTAG00000006410_BTHO	DCTN5	1	106	-0.147	-0.001386792	Gain:1
ENSBTAG00000019267_BTHO	MMP2	1	88	-0.122	-0.001386364	Lost:1
ENSBTAG00000013907_BTHO	CRP	1	184	-0.255	-0.00138587	Decrease:1
ENSBTAG00000005622_BTAN	LITAF	1	117	-0.162	-0.001384615	Lost:1
ENSBTAG00000010850_BTJE	SERTAD4	1	112	-0.154	-0.001375	Gain:1
ENSBTAG00000010850_BTLM	SERTAD4	1	112	-0.154	-0.001375	Gain:1
ENSBTAG00000001497_BTLM	MRAS	2	194	-0.133	-0.001371134	Gain:1 Lost:1
ENSBTAG00000020051_BTHO	C25H16orf82	1	137	-0.187	-0.001364964	Lost:1
ENSBTAG00000020051_BTLM	C25H16orf82	1	138	-0.187	-0.001355072	Lost:1
ENSBTAG00000000404_BTJE	APOA1BP	1	20	-0.027	-0.00135	Lost:1
ENSBTAG00000007567_BTLM	TMX3	1	130	-0.175	-0.001346154	Lost:1
ENSBTAG00000005851_BTHO	VTA1	1	93	-0.125	-0.001344086	Lost:1
ENSBTAG00000009419_BTJE	TRIM29	1	95	-0.126	-0.001326316	Lost:1
ENSBTAG00000005029_BTJE	TAL1	1	80	-0.106	-0.001325	Gain:1
ENSBTAG00000005807_BTLM	MICU1	2	88	-0.058	-0.001318182	Gain:2
ENSBTAG00000009419_BTRO	TRIM29	1	96	-0.126	-0.0013125	Lost:1
ENSBTAG00000011001_BTLM	ERG	1	116	-0.151	-0.001301724	Gain:1
ENSBTAG00000002203_BTAN	NDUFS2	1	17	-0.022	-0.001294118	Lost:1
ENSBTAG00000002203_BTLM	NDUFS2	1	17	-0.022	-0.001294118	Lost:1
ENSBTAG00000004801_BTHO	PDXDC1	1	157	-0.2	-0.001273885	Lost:1
ENSBTAG00000014091_BTHO	ARHGEF3	2	179	-0.114	-0.001273743	Gain:1 Lost:1
ENSBTAG00000014091_BTJE	ARHGEF3	2	180	-0.114	-0.001266667	Gain:1 Lost:1
ENSBTAG00000046264_BTJE		1	38	-0.048	-0.001263158	Lost:1
ENSBTAG00000046264_BTLM		1	38	-0.048	-0.001263158	Lost:1
ENSBTAG00000008802_BTHO	GID4	2	195	-0.123	-0.001261538	Gain:2
ENSBTAG00000013528_BTAN	CHMP7	1	137	-0.169	-0.001233577	Lost:1

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000019013_BTHO	HECTD3	1	52	-0.064	-0.001230769	Lost:1
ENSBTAG00000013528_BTJE	CHMP7	1	138	-0.169	-0.001224638	Lost:1
ENSBTAG00000013528_BTLM	CHMP7	1	138	-0.169	-0.001224638	Lost:1
ENSBTAG00000004147_BTRO	FBXO18	2	169	-0.103	-0.001218935	Lost:2
ENSBTAG00000032021_BTHO	RALB	1	127	-0.154	-0.001212598	Lost:1
ENSBTAG00000019013_BTLM	HECTD3	1	53	-0.064	-0.001207547	Lost:1
ENSBTAG00000017116_BTHO	RASD2	1	156	-0.187	-0.001198718	Gain:1
ENSBTAG00000017116_BTLM	RASD2	1	156	-0.187	-0.001198718	Gain:1
ENSBTAG00000025212_BTAN	HARS2	1	87	-0.104	-0.001195402	Gain:1
ENSBTAG00000025212_BTJE	HARS2	1	87	-0.104	-0.001195402	Gain:1
ENSBTAG00000002701_BTHO	UGT3A2	2	141	-0.083	-0.001177305	Decrease:1 Lost:1
ENSBTAG00000002701_BTJE	UGT3A2	2	141	-0.083	-0.001177305	Decrease:1 Lost:1
ENSBTAG00000021263_BTJE	CYP4V2	1	170	-0.2	-0.001176471	Gain:1
ENSBTAG00000017840_BTJE	BAZ2A	2	221	-0.129	-0.001167421	Increase:1 Lost:1
ENSBTAG00000007870_BTJE	FKBP14	1	157	-0.181	-0.001152866	Lost:1
ENSBTAG00000004999_BTJE	C5H12orf35	1	127	-0.146	-0.001149606	Gain:1
ENSBTAG00000018227_BTJE	SLC4A7	1	198	-0.224	-0.001131313	Gain:1
ENSBTAG00000031715_BTHO	PCMTD2	1	152	-0.171	-0.001125	Lost:1
ENSBTAG00000009998_BTAN	GALNTL1	1	139	-0.155	-0.001115108	Increase:1
ENSBTAG00000005565_BTAN	CLN6	1	53	-0.059	-0.001113208	Gain:1
ENSBTAG00000005565_BTLM	CLN6	1	53	-0.059	-0.001113208	Gain:1
ENSBTAG00000017218_BTAN	ACER3	1	119	-0.132	-0.001109244	Lost:1
ENSBTAG00000021120_BTAN	SMYD1	1	223	-0.246	-0.001103139	Gain:1
ENSBTAG00000040580_BTLM	LOC618633	1	136	-0.15	-0.001102941	Lost:1
ENSBTAG00000006640_BTJE	RB1	1	175	-0.192	-0.001097143	Lost:1
ENSBTAG00000006640_BTLM	RB1	1	175	-0.192	-0.001097143	Lost:1
ENSBTAG00000021499_BTLM	PSAP	1	64	-0.07	-0.00109375	Lost:1
ENSBTAG00000003490_BTRO	ELMO1	1	112	-0.122	-0.001089286	Decrease:1
ENSBTAG00000004452_BTLM	IPO9	1	62	-0.066	-0.001064516	Gain:1
ENSBTAG00000030369_BTHO	IFFO1	1	96	-0.102	-0.0010625	Gain:1
ENSBTAG00000000948_BTJE	RAB2A	1	73	-0.077	-0.001054795	Gain:1
ENSBTAG00000002105_BTAN		1	228	-0.239	-0.001048246	Lost:1
ENSBTAG00000002105_BTHO		1	228	-0.239	-0.001048246	Lost:1

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000002105_BTLM		1	228	-0.239	-0.001048246	Lost:1
ENSBTAG00000001585_BTJE	WIPF1	1	182	-0.189	-0.001038462	Lost:1
ENSBTAG00000008729_BTFL	FAM45A	1	127	-0.13	-0.001023622	Lost:1
ENSBTAG00000008115_BTLM	TNFAIP1	1	102	-0.101	-0.000990196	Gain:1
ENSBTAG00000015155_BTLM	PTPLAD1	1	143	-0.141	-0.000986014	Decrease:1
ENSBTAG00000015155_BTHO	PTPLAD1	1	144	-0.141	-0.000979167	Decrease:1
ENSBTAG00000012004_BTLM	TGFB3	1	66	-0.064	-0.000969697	Lost:1
ENSBTAG00000012004_BTRO	TGFB3	1	66	-0.064	-0.000969697	Lost:1
ENSBTAG00000020030_BTHO	FITM2	1	177	-0.17	-0.000960452	Increase:1
ENSBTAG00000006801_BTRO	TMEM106A	1	100	-0.096	-0.00096	Lost:1
ENSBTAG00000003695_BTAN	WDR45L	1	70	-0.067	-0.000957143	Lost:1
ENSBTAG00000012442_BTLM	CTSB	1	86	-0.082	-0.000953488	Gain:1
ENSBTAG00000011022_BTJE	ARPP19	1	105	-0.092	-0.00087619	Lost:1
ENSBTAG00000010383_BTJE	YTHDF1	1	97	-0.084	-0.000865979	Lost:1
ENSBTAG00000045520_BTHO	PDYN	1	122	-0.105	-0.000860656	Decrease:1
ENSBTAG00000015230_BTAN	PLA2G12A	1	172	-0.147	-0.000854651	Decrease:1
ENSBTAG00000015230_BTLM	PLA2G12A	1	172	-0.147	-0.000854651	Decrease:1
ENSBTAG00000007588_BTJE	ERLIN1	1	156	-0.131	-0.000839744	Increase:1
ENSBTAG00000008504_BTLM	SYNGR3	1	123	-0.103	-0.000837398	Increase:1
ENSBTAG00000022160_BTLM	NAP1L4	1	55	-0.046	-0.000836364	Lost:1
ENSBTAG00000002879_BTHO	DCPS	2	163	-0.068	-0.000834356	Lost:2
ENSBTAG00000001004_BTHO	ESAM	1	66	-0.055	-0.000833333	Lost:1
ENSBTAG00000019379_BTLM	TUSC5	1	198	-0.164	-0.000828283	Lost:1
ENSBTAG00000002192_BTHO	C14H8orf46	2	167	-0.069	-0.000826347	Lost:2
ENSBTAG00000002192_BTJE	C14H8orf46	2	167	-0.069	-0.000826347	Lost:2
ENSBTAG00000021191_BTAN	EHD2	1	132	-0.108	-0.000818182	Lost:1
ENSBTAG00000039493_BTHO	ZNF177	1	93	-0.076	-0.000817204	Gain:1
ENSBTAG00000013912_BTHO	TXNRD1	1	152	-0.124	-0.000815789	Decrease:1
ENSBTAG00000010664_BTJE	PRKCQ	1	81	-0.066	-0.000814815	Lost:1
ENSBTAG00000021191_BTLM	EHD2	1	133	-0.108	-0.00081203	Lost:1

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000013912_BTJE	TXNRD1	1	153	-0.124	-0.000810458	Decrease:1
ENSBTAG00000013912_BTLM	TXNRD1	1	153	-0.124	-0.000810458	Decrease:1
ENSBTAG00000010664_BTAN	PRKCQ	1	82	-0.066	-0.000804878	Lost:1
ENSBTAG00000010664_BTHO	PRKCQ	1	82	-0.066	-0.000804878	Lost:1
ENSBTAG00000010664_BTLM	PRKCQ	1	82	-0.066	-0.000804878	Lost:1
ENSBTAG00000010837_BTHO	HTR4	1	193	-0.153	-0.000792746	Increase:1
ENSBTAG00000038286_BTHO	C14H8orf22	1	135	-0.107	-0.000792593	Decrease:1
ENSBTAG00000007213_BTHO	SIRPA	1	182	-0.144	-0.000791209	Increase:1
ENSBTAG00000017459_BTLM	DUSP18	1	193	-0.149	-0.000772021	Gain:1
ENSBTAG00000014237_BTLM	CYTH4	1	211	-0.159	-0.000753555	Gain:1
ENSBTAG00000014237_BTJE	CYTH4	1	212	-0.159	-0.00075	Gain:1
ENSBTAG00000046846_BTLM	FAM32A	1	97	-0.072	-0.000742268	Gain:1
ENSBTAG00000011328_BTAN	CGREF1	1	84	-0.062	-0.000738095	Decrease:1
ENSBTAG00000011328_BTHO	CGREF1	1	85	-0.062	-0.000729412	Decrease:1
ENSBTAG00000011328_BTJE	CGREF1	1	85	-0.062	-0.000729412	Decrease:1
ENSBTAG00000011328_BTLM	CGREF1	1	85	-0.062	-0.000729412	Decrease:1
ENSBTAG00000013371_BTHO	KIAA0226L	1	155	-0.113	-0.000729032	Increase:1
ENSBTAG00000013371_BTJE	KIAA0226L	1	155	-0.113	-0.000729032	Increase:1
ENSBTAG00000013371_BTLM	KIAA0226L	1	155	-0.113	-0.000729032	Increase:1
ENSBTAG00000003185_BTJE	ASAP1	1	169	-0.123	-0.000727811	Gain:1
ENSBTAG00000019125_BTAN	SLC1A1	1	135	-0.097	-0.000718519	Gain:1
ENSBTAG00000008401_BTJE	PFKFB3	1	173	-0.123	-0.000710983	Increase:1
ENSBTAG00000014103_BTJE	SH3GL2	1	134	-0.095	-0.000708955	Gain:1
ENSBTAG00000014103_BTLM	SH3GL2	1	134	-0.095	-0.000708955	Gain:1
ENSBTAG00000003215_BTHO	KIF3B	2	230	-0.081	-0.000704348	Increase:2
ENSBTAG00000019767_BTJE	MIER2	1	114	-0.079	-0.000692982	Increase:1
ENSBTAG00000001764_BTJE	NCAN	1	179	-0.124	-0.000692737	Gain:1
ENSBTAG00000019470_BTHO	NEK6	1	119	-0.082	-0.000689076	Gain:1
ENSBTAG00000001656_BTJE	C28H10orf57	1	151	-0.104	-0.000688742	Gain:1
ENSBTAG00000016341_BTHO	RGS5	1	155	-0.105	-0.000677419	Lost:1

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000014237_BTAN	CYTH4	1	212	-0.143	-0.000674528	Gain:1
ENSBTAG00000012262_BTFL	FBXO10	1	174	-0.113	-0.000649425	Gain:1
ENSBTAG00000021211_BTAN	DPT	2	74	-0.024	-0.000648649	Gain:1 Lost:1
ENSBTAG00000021211_BTJE	DPT	2	74	-0.024	-0.000648649	Gain:1 Lost:1
ENSBTAG00000021211_BTLM	DPT	2	74	-0.024	-0.000648649	Gain:1 Lost:1
ENSBTAG00000017811_BTAN	SLC39A9	1	143	-0.092	-0.000643357	Gain:1
ENSBTAG00000032704_BTAN	NAPB	1	151	-0.096	-0.000635762	Lost:1
ENSBTAG00000032704_BTLM	NAPB	1	151	-0.096	-0.000635762	Lost:1
ENSBTAG00000014911_BTJE	LEP	1	185	-0.113	-0.000610811	Decrease:1
ENSBTAG00000008952_BTAN	RAP1GAP	1	84	-0.051	-0.000607143	Decrease:1
ENSBTAG00000008053_BTJE	WDFY2	1	104	-0.063	-0.000605769	Gain:1
ENSBTAG00000012249_BTAN	PRR15L	1	67	-0.04	-0.000597015	Lost:1
ENSBTAG00000012249_BTLM	PRR15L	1	67	-0.04	-0.000597015	Lost:1
ENSBTAG00000016389_BTLM	UBL4B	1	93	-0.054	-0.000580645	Lost:1
ENSBTAG00000009337_BTAN	PNMAL1	1	148	-0.083	-0.000560811	Increase:1
ENSBTAG00000009337_BTHO	PNMAL1	1	148	-0.083	-0.000560811	Increase:1
ENSBTAG00000032704_BTJE	NAPB	1	152	-0.085	-0.000559211	Gain:1
ENSBTAG00000017661_BTJE	RFX2	1	163	-0.091	-0.000558282	Gain:1
ENSBTAG00000005663_BTLM	HAUS2	1	124	-0.069	-0.000556452	Lost:1
ENSBTAG00000037702_BTJE	SP140L	1	202	-0.112	-0.000554455	Lost:1
ENSBTAG00000005663_BTAN	HAUS2	1	125	-0.069	-0.000552	Lost:1
ENSBTAG00000005663_BTJE	HAUS2	1	125	-0.069	-0.000552	Lost:1
ENSBTAG00000006738_BTHO	GPR68	1	166	-0.091	-0.000548193	Gain:1
ENSBTAG00000014912_BTHO	FMOD	1	122	-0.065	-0.000532787	Decrease:1
ENSBTAG00000007588_BTLM	ERLIN1	1	156	-0.082	-0.000525641	Decrease:1
ENSBTAG00000021318_BTHO	SCAMP5	2	214	-0.056	-0.000523364	Gain:2
ENSBTAG00000011953_BTHO	PRKACB	1	209	-0.108	-0.000516746	Lost:1
ENSBTAG00000011953_BTJE	PRKACB	1	210	-0.108	-0.000514286	Lost:1
ENSBTAG00000005207_BTHO	COPS7B	1	110	-0.056	-0.000509091	Lost:1
ENSBTAG00000010223_BTLM	NTF3	1	112	-0.057	-0.000508929	Gain:1

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000001030_BTAN	MTMR3	1	237	-0.119	-0.00050211	Decrease:1
ENSBTAG00000001030_BTJE	MTMR3	1	237	-0.119	-0.00050211	Decrease:1
ENSBTAG00000002477_BTJE	FTSJ2	1	76	-0.038	-5.00E-04	Lost:1
ENSBTAG00000018699_BTJE	KAT7	1	111	-0.055	-0.000495495	Lost:1
ENSBTAG00000004383_BTHO	FNBP1L	1	162	-0.077	-0.000475309	Increase:1
ENSBTAG00000004383_BTJE	FNBP1L	1	163	-0.077	-0.000472393	Increase:1
ENSBTAG00000004383_BTLM	FNBP1L	1	163	-0.077	-0.000472393	Increase:1
ENSBTAG00000000634_BTHO	MLPH	1	139	-0.065	-0.000467626	Increase:1
ENSBTAG00000000634_BTJE	MLPH	1	139	-0.065	-0.000467626	Increase:1
ENSBTAG00000003649_BTAN	SGK196	1	146	-0.068	-0.000465753	Increase:1
ENSBTAG00000003649_BTLM	SGK196	1	147	-0.068	-0.000462585	Increase:1
ENSBTAG00000002362_BTJE	APOLD1	2	185	-0.042	-0.000454054	Gain:1 Lost:1
ENSBTAG00000010505_BTJE	INTS4	1	187	-0.084	-0.000449198	Increase:1
ENSBTAG00000019692_BTAN	BCL2L2	1	236	-0.106	-0.000449153	Lost:1
ENSBTAG00000019692_BTLM	BCL2L2	1	236	-0.106	-0.000449153	Lost:1
ENSBTAG00000025494_BTLM	PAQR8	1	156	-0.064	-0.000410256	Decrease:1
ENSBTAG00000000653_BTAN	PPP1R16B	2	277	-0.055	-0.000397112	Decrease:1 Lost:1
ENSBTAG00000011826_BTJE	PEX26	1	91	-0.036	-0.000395604	Lost:1
ENSBTAG00000010490_BTAN	PEX5	1	95	-0.037	-0.000389474	Lost:1
ENSBTAG00000001523_BTJE	YES1	1	203	-0.078	-0.000384236	Increase:1
ENSBTAG00000011917_BTJE	GPAM	1	210	-0.08	-0.000380952	Decrease:1
ENSBTAG00000018761_BTAN	C11H2orf18	1	210	-0.076	-0.000361905	Lost:1
ENSBTAG00000018761_BTHO	C11H2orf18	1	210	-0.076	-0.000361905	Lost:1
ENSBTAG00000003836_BTAN	ADAM19	1	256	-0.092	-0.000359375	Gain:1
ENSBTAG00000003836_BTLM	ADAM19	1	256	-0.092	-0.000359375	Gain:1
ENSBTAG00000012112_BTHO	SLC7A6	1	190	-0.067	-0.000352632	Increase:1
ENSBTAG00000012112_BTJE	SLC7A6	1	190	-0.067	-0.000352632	Increase:1
ENSBTAG00000045762_BTJE	SCAMP4	1	156	-0.054	-0.000346154	Lost:1
ENSBTAG00000003954_BTHO	ASH1L	1	194	-0.067	-0.000345361	Gain:1
ENSBTAG00000020252_BTHO	NLGN2	1	186	-0.064	-0.000344086	Lost:1
ENSBTAG00000020252_BTLM	NLGN2	1	186	-0.064	-0.000344086	Lost:1

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000005195_BTLM	ZNF200	1	167	-0.057	-0.000341317	Gain:1
ENSBTAG00000005961_BTJE	CDC42SE2	1	151	-0.049	-0.000324503	Lost:1
ENSBTAG00000015659_BTJE	CIAO1	1	192	-0.062	-0.000322917	Decrease:1
ENSBTAG00000010775_BTLM	POGK	2	168	-0.027	-0.000321429	Decrease:1 Lost:1
ENSBTAG00000004603_BTLM	PHC2	1	160	-0.05	-0.0003125	Gain:1
ENSBTAG00000000306_BTJE	ITK	1	208	-0.063	-0.000302885	Decrease:1
ENSBTAG00000005917_BTJE	PARD6G	1	152	-0.046	-0.000302632	Increase:1
ENSBTAG00000007943_BTJE	AZIN1	1	152	-0.045	-0.000296053	Lost:1
ENSBTAG00000010100_BTJE	MED20	2	117	-0.017	-0.000290598	Lost:2
ENSBTAG00000006567_BTLM	VIPR1	1	111	-0.028	-0.000252252	Decrease:1
ENSBTAG00000013259_BTLM	POLR3A	1	183	-0.046	-0.000251366	Increase:1
ENSBTAG00000013066_BTJE	IGF2	1	185	-0.043	-0.000232432	Gain:1
ENSBTAG00000002816_BTHO	SARM1	1	205	-0.047	-0.000229268	Decrease:1
ENSBTAG00000002816_BTJE	SARM1	1	205	-0.047	-0.000229268	Decrease:1
ENSBTAG00000040169_BTLM	LOC509810	1	123	-0.028	-0.000227642	Gain:1
ENSBTAG00000009772_BTHO	LIX1	1	227	-0.051	-0.00022467	Gain:1
ENSBTAG00000003585_BTAN	CD47	1	125	-0.028	-0.000224	Lost:1
ENSBTAG00000020595_BTLM	KCTD20	1	177	-0.038	-0.000214689	Decrease:1
ENSBTAG00000000653_BTLM	PPP1R16B	2	277	-0.029	-0.000209386	Decrease:1 Gain:1
ENSBTAG00000010171_BTAN	JOSD1	1	201	-0.042	-0.000208955	Lost:1
ENSBTAG00000010171_BTHO	JOSD1	1	201	-0.042	-0.000208955	Lost:1
ENSBTAG00000010171_BTLM	JOSD1	1	202	-0.042	-0.000207921	Lost:1
ENSBTAG00000017818_BTJE	MOG	1	111	-0.023	-0.000207207	Gain:1
ENSBTAG00000017818_BTAN	MOG	1	112	-0.023	-0.000205357	Gain:1
ENSBTAG00000000207_BTJE	HDHD1	1	85	-0.017	-2.00E-04	Gain:1
ENSBTAG00000022044_BTAN	RAB35	1	158	-0.03	-0.000189873	Increase:1
ENSBTAG00000020030_BTLM	FITM2	1	176	-0.029	-0.000164773	Decrease:1
ENSBTAG00000001497_BTHO	MRAS	1	195	-0.029	-0.000148718	Lost:1

Supplementary table 12 – List of polymorphic 3'UTR ranked by their miRNA binding score

Gene ID	Gene name	Number of polymorphic sites	Number of common sites	Context score+ sum	ssr	event
ENSBTAG00000001183_BTJE	KLHL33	1	174	-0.025	-0.000143678	Gain:1
ENSBTAG00000002582_BTJE	LYG2	1	176	-0.024	-0.000136364	Lost:1
ENSBTAG00000018291_BTHO	C11H2orf68	1	127	-0.014	-0.000110236	Lost:1
ENSBTAG00000004824_BTHO	REEP1	1	153	-0.013	-8.50E-05	Lost:1
ENSBTAG00000000653_BTHO	PPP1R16B	1	275	-0.019	-6.91E-05	Decrease:1
ENSBTAG00000011217_BTLM	DNAJC11	1	131	-0.008	-6.11E-05	Decrease:1
ENSBTAG00000011217_BTAN	DNAJC11	1	132	-0.008	-6.06E-05	Decrease:1
ENSBTAG00000037702_BTLM	SP140L	1	201	-0.011	-5.47E-05	Decrease:1
ENSBTAG00000013589_BTAN	CHMP3	1	184	-0.009	-4.89E-05	Lost:1
ENSBTAG00000003215_BTAN	KIF3B	1	230	-0.011	-4.78E-05	Gain:1
ENSBTAG00000012332_BTHO	C11H2orf49	1	172	-0.008	-4.65E-05	Increase:1
ENSBTAG00000030587_BTAN	LASP1	1	223	-0.01	-4.48E-05	Decrease:1
ENSBTAG00000030587_BTHO	LASP1	1	224	-0.01	-4.46E-05	Decrease:1
ENSBTAG00000030587_BTLM	LASP1	1	224	-0.01	-4.46E-05	Decrease:1
ENSBTAG00000018873_BTLM	TTPAL	1	128	-0.005	-3.91E-05	Gain:1
ENSBTAG00000016622_BTJE	C22H3orf23	1	176	-0.004	-2.27E-05	Gain:1
ENSBTAG00000007170_BTHO	SLC38A7	1	173	-0.003	-1.73E-05	Lost:1
ENSBTAG00000021923_BTJE	DSG2	1	115	-0.001	-8.70E-06	Increase:1

Supplementary table 13 – Haplotype frequencies from genotyping of 18 SNPs in miRNA binding sites on 25 cattle breeds

Breed	info	PPP1R16B8	info	TRGC_like	info	TARBP1	info	CYP3A5	info	PLA2G2A	info	CTC1	info	GUCA2B	info	ERLIN1	info	LAMTOR2
All	sum	2989	sum	8557	sum	31320	sum	29588	sum	30823	sum	31255	sum	31339	sum	22668	sum	28062
All	TT	0	GG	0	CC	0.27940613	AA	0.24891848	CC	0	GG	1	AA	0.05383069	TT	0.976354332	AA	0.425058798
All	TC	0	GA	0.004440809	CG	0.496487867	AC	0.466641882	CA	0	GA	0	AG	0.342991161	TC	0.023513323	AG	0.4036063
All	CC	1	AA	0.995559191	GG	0.224106003	CC	0.284439638	AA	1	AA	0	GG	0.603178149	CC	0.000132345	GG	0.171334901
All	pval	1	pval	0.836905363	pval	0.481393638	pval	0	pval	1	pval	1	pval	0.001921448	pval	0.908138148	pval	0
SIM	sum	22	sum	231	sum	1024	sum	965	sum	1021	sum	1022	sum	1023	sum	750	sum	1024
SIM	TT	0	GG	0	CC	0.349609375	AA	0.328497409	CC	0	GG	1	AA	0.025415445	TT	0.988	AA	0.2734375
SIM	TC	0	GA	0.012987013	CG	0.453125	AC	0.498445596	CA	0	GA	0	AG	0.301075269	TC	0.012	AG	0.521484375
SIM	CC	1	AA	0.987012987	GG	0.197265625	CC	0.173056995	AA	1	AA	0	GG	0.673509286	CC	0	GG	0.205078125
SIM	pval	1	pval	0.920870063	pval	0.020835155	pval	0.502736595	pval	1	pval	1	pval	0.221341391	pval	0.868701075	pval	0.125598027
SAL	sum	6	sum	69	sum	205	sum	196	sum	188	sum	206	sum	206	sum	168	sum	206
SAL	TT	0	GG	0	CC	0.268292683	AA	0.280612245	CC	0	GG	1	AA	0.019417476	TT	1	AA	0.160194175
SAL	TC	0	GA	0	CG	0.448780488	AC	0.479591837	CA	0	GA	0	AG	0.262135922	TC	0	AG	0.563106796
SAL	CC	1	AA	1	GG	0.282926829	CC	0.239795918	AA	1	AA	0	GG	0.718446602	CC	0	GG	0.276699029
SAL	pval	1	pval	1	pval	0.143207376	pval	0.582991994	pval	1	pval	1	pval	0.717011834	pval	1	pval	0.041958877
ROM	sum	2	sum	4	sum	8	sum	8	sum	8	sum	8	sum	8	sum	6	sum	8
ROM	TT	0	GG	0	CC	0.125	AA	0	CC	0	GG	1	AA	0.5	TT	1	AA	0.125
ROM	TC	0	GA	0	CG	0.875	AC	0.25	CA	0	GA	0	AG	0.5	TC	0	AG	0.375
ROM	CC	1	AA	1	GG	0	CC	0.75	AA	1	AA	0	GG	0	CC	0	GG	0.5
ROM	pval	1	pval	1	pval	0.027814859	pval	0.68616785	pval	1	pval	1	pval	0.345778586	pval	1	pval	0.718860868
RDP	sum	1	sum	0	sum	1	sum	1	sum	1	sum	1	sum	1	sum	0	sum	1
RDP	TT	0	GG	NaN	CC	0	AA	0	CC	0	GG	1	AA	0	TT	NaN	AA	0
RDP	TC	0	GA	NaN	CG	0	AC	0	CA	0	GA	0	AG	1	TC	NaN	AG	1
RDP	CC	1	AA	NaN	GG	1	CC	1	AA	1	AA	0	GG	0	CC	NaN	GG	0
RDP	pval	1	pval	NA	pval	1	pval	1	pval	1	pval	1	pval	0.317310508	pval	NA	pval	0.317310508
PIE	sum	4	sum	6	sum	42	sum	40	sum	37	sum	42	sum	41	sum	35	sum	42
PIE	TT	0	GG	0	CC	0.285714286	AA	0.475	CC	0	GG	1	AA	0.097560976	TT	0.971428571	AA	0.261904762
PIE	TC	0	GA	0	CG	0.428571429	AC	0.425	CA	0	GA	0	AG	0.512195122	TC	0.028571429	AG	0.404761905
PIE	CC	1	AA	1	GG	0.285714286	CC	0.1	AA	1	AA	0	GG	0.390243902	CC	0	GG	0.333333333
PIE	pval	1	pval	1	pval	0.35453948	pval	0.944993481	pval	1	pval	1	pval	0.440880111	pval	0.931672876	pval	0.227230937
PAR	sum	25	sum	24	sum	140	sum	139	sum	135	sum	139	sum	140	sum	84	sum	140
PAR	TT	0	GG	0	CC	0.235714286	AA	0.309352518	CC	0	GG	1	AA	0.007142857	TT	0.976190476	AA	0.228571429
PAR	TC	0	GA	0	CG	0.492857143	AC	0.517985612	CA	0	GA	0	AG	0.15	TC	0.023809524	AG	0.492857143
PAR	CC	1	AA	1	GG	0.271428571	CC	0.172661871	AA	1	AA	0	GG	0.842857143	CC	0	GG	0.278571429
PAR	pval	1	pval	1	pval	0.877502967	pval	0.511406928	pval	1	pval	1	pval	0.950520401	pval	0.912073508	pval	0.888818051

Breed	info	PPP1R16B8	info	TRGC_like	info	TARBP1	info	CYP3A5	info	PLA2G2A	info	CTC1	info	GUCA2B	info	ERLIN1	info	LAMTOR2
MSH	sum	4	sum	48	sum	150	sum	141	sum	108	sum	149	sum	150	sum	66	sum	150
MSH	TT	0	GG	0	CC	0.246666667	AA	0.134751773	CC	0	GG	1	AA	0.02	TT	0.939393939	AA	0.82
MSH	TC	0	GA	0	CG	0.506666667	AC	0.475177305	CA	0	GA	0	AG	0.3	TC	0.045454545	AG	0.173333333
MSH	CC	1	AA	1	GG	0.246666667	CC	0.390070922	AA	1	AA	0	GG	0.68	CC	0.015151515	GG	0.006666667
MSH	pval	1	pval	1	pval	0.870282772	pval	0.843493785	pval	1	pval	1	pval	0.439807674	pval	0.002230361	pval	0.767310847
MRY	sum	1	sum	1	sum	1	sum	1	sum	1	sum	1	sum	1	sum	1	sum	1
MRY	TT	0	GG	0	CC	1	AA	0	CC	0	GG	1	AA	0	TT	1	AA	0
MRY	TC	0	GA	0	CG	0	AC	1	CA	0	GA	0	AG	1	TC	0	AG	1
MRY	CC	1	AA	1	GG	0	CC	0	AA	1	AA	0	GG	0	CC	0	GG	0
MRY	pval	1	pval	1	pval	1	pval	0.317310508	pval	1	pval	1	pval	0.317310508	pval	1	pval	0.317310508
MON	sum	0	sum	1	sum	6	sum	6	sum	6	sum	6	sum	6	sum	5	sum	6
MON	TT	NaN	GG	0	CC	0.5	AA	0.166666667	CC	0	GG	1	AA	0	TT	1	AA	0.5
MON	TC	NaN	GA	0	CG	0.5	AC	0.666666667	CA	0	GA	0	AG	0.333333333	TC	0	AG	0.333333333
MON	CC	NaN	AA	1	GG	0	CC	0.166666667	AA	1	AA	0	GG	0.666666667	CC	0	GG	0.166666667
MON	pval	NA	pval	1	pval	0.414216178	pval	0.414216178	pval	1	pval	1	pval	0.624206115	pval	1	pval	0.540291375
LIM	sum	926	sum	1544	sum	7308	sum	6997	sum	7019	sum	7277	sum	7311	sum	5300	sum	7311
LIM	TT	0	GG	0	CC	0.275862069	AA	0.337573246	CC	0	GG	1	AA	0.09150595	TT	0.980943396	AA	0.143619204
LIM	TC	0	GA	0.006476684	CG	0.512588944	AC	0.480777476	CA	0	GA	0	AG	0.432225414	TC	0.019056604	AG	0.462590617
LIM	CC	1	AA	0.993523316	GG	0.211548987	CC	0.181649278	AA	1	AA	0	GG	0.476268636	CC	0	GG	0.393790179
LIM	pval	1	pval	0.898418002	pval	0.011856911	pval	0.225651699	pval	1	pval	1	pval	0.209899866	pval	0.483712539	pval	0.264494328
KER	sum	4	sum	1	sum	9	sum	8	sum	9	sum	9	sum	9	sum	7	sum	9
KER	TT	0	GG	0	CC	0.666666667	AA	0.125	CC	0	GG	1	AA	0	TT	1	AA	0.777777778
KER	TC	0	GA	0	CG	0.222222222	AC	0.625	CA	0	GA	0	AG	0.444444444	TC	0	AG	0.111111111
KER	CC	1	AA	1	GG	0.111111111	CC	0.25	AA	1	AA	0	GG	0.555555556	CC	0	GG	0.111111111
KER	pval	1	pval	1	pval	0.283976772	pval	0.445328407	pval	1	pval	1	pval	0.391365938	pval	1	pval	0.071860638
IRM	sum	0	sum	1	sum	4	sum	3	sum	4	sum	4	sum	4	sum	1	sum	4
IRM	TT	NaN	GG	0	CC	0.25	AA	0	CC	0	GG	1	AA	0	TT	0	AA	0.75
IRM	TC	NaN	GA	0	CG	0.75	AC	0.666666667	CA	0	GA	0	AG	0	TC	1	AG	0.25
IRM	CC	NaN	AA	1	GG	0	CC	0.333333333	AA	1	AA	0	GG	1	CC	0	GG	0
IRM	pval	NA	pval	1	pval	0.23013934	pval	0.386476231	pval	1	pval	1	pval	1	pval	0.317310508	pval	0.775096962
HOL	sum	11	sum	17	sum	72	sum	70	sum	71	sum	72	sum	72	sum	46	sum	72
HOL	TT	0	GG	0	CC	0.416666667	AA	0.171428571	CC	0	GG	1	AA	0.013888889	TT	0.97826087	AA	0.527777778
HOL	TC	0	GA	0	CG	0.416666667	AC	0.414285714	CA	0	GA	0	AG	0.319444444	TC	0.02173913	AG	0.361111111
HOL	CC	1	AA	1	GG	0.166666667	CC	0.414285714	AA	1	AA	0	GG	0.666666667	CC	0	GG	0.111111111
HOL	pval	1	pval	1	pval	0.345778586	pval	0.317415815	pval	1	pval	1	pval	0.336456716	pval	0.940587797	pval	0.284811427
HLA	sum	0	sum	0	sum	1	sum	1	sum	1	sum	1	sum	1	sum	0	sum	1
HLA	TT	NaN	GG	NaN	CC	0	AA	0	CC	0	GG	1	AA	0	TT	NaN	AA	1
HLA	TC	NaN	GA	NaN	CG	0	AC	1	CA	0	GA	0	AG	1	TC	NaN	AG	0
HLA	CC	NaN	AA	NaN	GG	1	CC	0	AA	1	AA	0	GG	0	CC	NaN	GG	0
HLA	pval	NA	pval	NA	pval	1	pval	0.317310508	pval	1	pval	1	pval	0.317310508	pval	NA	pval	1

Breed	info	PPP1R16B8	info	TRGC_like	info	TARBP1	info	CYP3A5	info	PLA2G2A	info	CTC1	info	GUCA2B	info	ERLIN1	info	LAMTOR2
HER	sum	306	sum	340	sum	623	sum	548	sum	618	sum	622	sum	623	sum	325	sum	623
HER	TT	0	GG	0	CC	0.319422151	AA	0.682481752	CC	0	GG	1	AA	0.192616372	TT	0.944615385	AA	0.825040128
HER	TC	0	GA	0	CG	0.50882825	AC	0.270072993	CA	0	GA	0	AG	0.475120385	TC	0.055384615	AG	0.170144462
HER	CC	1	AA	1	GG	0.171749599	CC	0.047445255	AA	1	AA	0	GG	0.332263242	CC	0	GG	0.004815409
HER	pval	1	pval	1	pval	0.313948477	pval	0.026438274	pval	1	pval	1	pval	0.441146118	pval	0.607637447	pval	0.31926105
GLW	sum	0	sum	7	sum	8	sum	8	sum	8	sum	8	sum	8	sum	7	sum	8
GLW	TT	NaN	GG	0	CC	0.125	AA	0.375	CC	0	GG	1	AA	0.125	TT	1	AA	1
GLW	TC	NaN	GA	0	CG	0.375	AC	0.625	CA	0	GA	0	AG	0.25	TC	0	AG	0
GLW	CC	NaN	AA	1	GG	0.5	CC	0	AA	1	AA	0	GG	0.625	CC	0	GG	0
GLW	pval	NA	pval	1	pval	0.718860868	pval	0.198565695	pval	1	pval	1	pval	0.345778586	pval	1	pval	1
DXT	sum	0	sum	0	sum	7	sum	7	sum	6	sum	7	sum	7	sum	6	sum	7
DXT	TT	NaN	GG	NaN	CC	0	AA	0	CC	0	GG	1	AA	0	TT	1	AA	0.714285714
DXT	TC	NaN	GA	NaN	CG	0.142857143	AC	0.285714286	CA	0	GA	0	AG	0.428571429	TC	0	AG	0.142857143
DXT	CC	NaN	AA	NaN	GG	0.857142857	CC	0.714285714	AA	1	AA	0	GG	0.571428571	CC	0	GG	0.142857143
DXT	pval	NA	pval	NA	pval	0.838729137	pval	0.659243004	pval	1	pval	1	pval	0.470559787	pval	1	pval	0.127680826
CHA	sum	879	sum	3281	sum	8986	sum	8469	sum	8974	sum	8964	sum	8996	sum	6787	sum	8993
CHA	TT	0	GG	0	CC	0.264522591	AA	0.166253395	CC	0	GG	1	AA	0.04101823	TT	0.98231914	AA	0.413543867
CHA	TC	0	GA	0.002743066	CG	0.504785221	AC	0.464753808	CA	0	GA	0	AG	0.320809249	TC	0.01753352	AG	0.465695541
CHA	CC	1	AA	0.997256934	GG	0.230692188	CC	0.368992797	AA	1	AA	0	GG	0.638172521	CC	0.000147341	GG	0.120760592
CHA	pval	1	pval	0.93729564	pval	0.309209917	pval	0.004794433	pval	1	pval	1	pval	0.79207723	pval	0.526749013	pval	0.075894442
BSW	sum	0	sum	0	sum	2	sum	2	sum	2	sum	2	sum	2	sum	2	sum	2
BSW	TT	NaN	GG	NaN	CC	0.5	AA	1	CC	0	GG	1	AA	0	TT	1	AA	1
BSW	TC	NaN	GA	NaN	CG	0	AC	0	CA	0	GA	0	AG	0.5	TC	0	AG	0
BSW	CC	NaN	AA	NaN	GG	0.5	CC	0	AA	1	AA	0	GG	0.5	CC	0	GG	0
BSW	pval	NA	pval	NA	pval	0.157299207	pval	1	pval	1	pval	1	pval	0.637351888	pval	1	pval	1
BBL	sum	18	sum	134	sum	468	sum	438	sum	390	sum	468	sum	468	sum	197	sum	468
BBL	TT	0	GG	0	CC	0.5	AA	0.328767123	CC	0	GG	1	AA	0.057692308	TT	0.92893401	AA	0.696581197
BBL	TC	0	GA	0	CG	0.401709402	AC	0.479452055	CA	0	GA	0	AG	0.354700855	TC	0.07106599	AG	0.273504274
BBL	CC	1	AA	1	GG	0.098290598	CC	0.191780822	AA	1	AA	0	GG	0.587606838	CC	0	GG	0.02991453
BBL	pval	1	pval	1	pval	0.36372111	pval	0.633872545	pval	1	pval	1	pval	0.768413834	pval	0.605083848	pval	0.739270071
BAQ	sum	12	sum	67	sum	222	sum	210	sum	221	sum	220	sum	222	sum	153	sum	222
BAQ	TT	0	GG	0	CC	0.234234234	AA	0.314285714	CC	0	GG	1	AA	0.058558559	TT	0.980392157	AA	0.369369369
BAQ	TC	0	GA	0	CG	0.481981982	AC	0.5	CA	0	GA	0	AG	0.378378378	TC	0.019607843	AG	0.436936937
BAQ	CC	1	AA	1	GG	0.283783784	CC	0.185714286	AA	1	AA	0	GG	0.563063063	CC	0	GG	0.193693694
BAQ	pval	1	pval	1	pval	0.615966324	pval	0.807557808	pval	1	pval	1	pval	0.821604226	pval	0.902528004	pval	0.143028741
AYS	sum	0	sum	0	sum	1	sum	1	sum	1	sum	1	sum	1	sum	1	sum	1
AYS	TT	NaN	GG	NaN	CC	0	AA	0	CC	0	GG	1	AA	0	TT	1	AA	0
AYS	TC	NaN	GA	NaN	CG	1	AC	0	CA	0	GA	0	AG	0	TC	0	AG	0
AYS	CC	NaN	AA	NaN	GG	0	CC	1	AA	1	AA	0	GG	1	CC	0	GG	1
AYS	pval	NA	pval	NA	pval	0.317310508	pval	1	pval	1	pval	1	pval	1	pval	1	pval	1

Breed	info	PPP1R16B8	info	TRGC_like	info	TARBP1	info	CYP3A5	info	PLA2G2A	info	CTC1	info	GUCA2B	info	ERLIN1	info	LAMTOR2
AUB	sum	5	sum	28	sum	129	sum	124	sum	129	sum	126	sum	129	sum	97	sum	129
AUB	TT	0	GG	0	CC	0.302325581	AA	0.129032258	CC	0	GG	1	AA	0.031007752	TT	0.979381443	AA	0.410852713
AUB	TC	0	GA	0.035714286	CG	0.519379845	AC	0.39516129	CA	0	GA	0	AG	0.356589147	TC	0.020618557	AG	0.496124031
AUB	CC	1	AA	0.964285714	GG	0.178294574	CC	0.475806452	AA	1	AA	0	GG	0.612403101	CC	0	GG	0.093023256
AUB	pval	1	pval	0.923354473	pval	0.532260791	pval	0.257672105	pval	1	pval	1	pval	0.379706719	pval	0.918286579	pval	0.238678
AAN	sum	119	sum	30	sum	1245	sum	1194	sum	1215	sum	1239	sum	1245	sum	522	sum	1245
AAN	TT	0	GG	0	CC	0.477911647	AA	0.058626466	CC	0	GG	1	AA	0.006425703	TT	0.87164751	AA	0.299598394
AAN	TC	0	GA	0.166666667	CG	0.424096386	AC	0.305695142	CA	0	GA	0	AG	0.134939759	TC	0.12835249	AG	0.495582329
AAN	CC	1	AA	0.833333333	GG	0.097991968	CC	0.635678392	AA	1	AA	0	GG	0.858634538	CC	0	GG	0.204819277
AAN	pval	1	pval	0.618533665	pval	0.758108224	pval	0.003958902	pval	1	pval	1	pval	0.618750848	pval	0.117159821	pval	0.995803005
HF	sum	644	sum	2723	sum	10658	sum	10011	sum	10650	sum	10661	sum	10665	sum	8102	sum	7389
HF	TT	0	GG	0	CC	0.253330831	AA	0.245030466	CC	0	GG	1	AA	0.040600094	TT	0.976178721	AA	0.71241034
HF	TC	0	GA	0.00367242	CG	0.496528429	AC	0.484267306	CA	0	GA	0	AG	0.323675574	TC	0.023697852	AG	0.263364461
HF	CC	1	AA	0.99632758	GG	0.250140739	CC	0.270702228	AA	1	AA	0	GG	0.635724332	CC	0.000123426	GG	0.0242252
HF	pval	1	pval	0.923525288	pval	0.474145828	pval	0.002039896	pval	1	pval	1	pval	0.807465041	pval	0.879574155	pval	0.95732276

Breed	info	HOXC8	info	RHOBTB2	info	PI3	info	GIMAP1	info	SRPRB	info	BST2B	info	GIMAP4	info	GIMAP4	info	PI3_like
All	sum	31340	sum	29084	sum	31058	sum	31310	sum	16660	sum	30803	sum	31345	sum	31341	sum	31331
All	AA	0.051723038	AA	0.848851602	TT	0.593760062	AA	0	CC	0	GG	0	AA	1	AA	0	GG	1
All	AG	0.317740906	AG	0.151148398	TC	0.406239938	AC	3.19E-05	CA	0	GA	0.659481219	AG	0	AG	0	GC	0
All	GG	0.630536056	GG	0	CC	0	CC	0.999968061	AA	1	AA	0.340518781	GG	0	GG	1	CC	0
All	pval	4.11E-15	pval	0	pval	0	pval	0.997745372	pval	1	pval	0	pval	1	pval	1	pval	1
SIM	sum	1024	sum	974	sum	1010	sum	1024	sum	623	sum	1009	sum	1024	sum	1024	sum	1024
SIM	AA	0.015625	AA	0.936344969	TT	0.308910891	AA	0	CC	0	GG	0	AA	1	AA	0	GG	1
SIM	AG	0.244140625	AG	0.063655031	TC	0.691089109	AC	0.00E+00	CA	0	GA	0.64222002	AG	0	AG	0	GC	0
SIM	GG	0.740234375	GG	0	CC	0	CC	1	AA	1	AA	0.35777998	GG	0	GG	1	CC	0
SIM	pval	3.69E-01	pval	0.304911496	pval	0	pval	1	pval	1	pval	0	pval	1	pval	1	pval	1
SAL	sum	206	sum	201	sum	205	sum	206	sum	118	sum	203	sum	206	sum	206	sum	206
SAL	AA	0	AA	0.955223881	TT	0.492682927	AA	0	CC	0	GG	0	AA	1	AA	0	GG	1
SAL	AG	0.053398058	AG	0.044776119	TC	0.507317073	AC	0.00E+00	CA	0	GA	0.532019704	AG	0	AG	0	GC	0
SAL	GG	0.946601942	GG	0	CC	0	CC	1	AA	1	AA	0.467980296	GG	0	GG	1	CC	0
SAL	pval	6.94E-01	pval	0.745427545	pval	1.13772E-06	pval	1	pval	1	pval	2.422E-07	pval	1	pval	1	pval	1
ROM	sum	8	sum	8	sum	7	sum	8	sum	0	sum	8	sum	8	sum	8	sum	8
ROM	AA	0	AA	0.75	TT	0.142857143	AA	0	CC	NaN	GG	0	AA	1	AA	0	GG	1
ROM	AG	0	AG	0.25	TC	0.857142857	AC	0.00E+00	CA	NaN	GA	0.25	AG	0	AG	0	GC	0
ROM	GG	1	GG	0	CC	0	CC	1	AA	NaN	AA	0.75	GG	0	GG	1	CC	0
ROM	pval	1.00E+00	pval	0.68616785	pval	0.047220904	pval	1	pval	NA	pval	0.68616785	pval	1	pval	1	pval	1
RDP	sum	1	sum	1	sum	1	sum	1	sum	1	sum	1	sum	1	sum	1	sum	1
RDP	AA	0	AA	1	TT	1	AA	0	CC	0	GG	0	AA	1	AA	0	GG	1
RDP	AG	0	AG	0	TC	0	AC	0.00E+00	CA	0	GA	1	AG	0	AG	0	GC	0
RDP	GG	1	GG	0	CC	0	CC	1	AA	1	AA	0	GG	0	GG	1	CC	0
RDP	pval	1.00E+00	pval	1	pval	1	pval	1	pval	1	pval	0.317310508	pval	1	pval	1	pval	1
PIE	sum	42	sum	38	sum	42	sum	42	sum	19	sum	38	sum	42	sum	42	sum	42
PIE	AA	0	AA	0.763157895	TT	0.714285714	AA	0	CC	0	GG	0	AA	1	AA	0	GG	1
PIE	AG	0.047619048	AG	0.236842105	TC	0.285714286	AC	0.00E+00	CA	0	GA	0.684210526	AG	0	AG	0	GC	0
PIE	GG	0.952380952	GG	0	CC	0	CC	1	AA	1	AA	0.315789474	GG	0	GG	1	CC	0
PIE	pval	8.74E-01	pval	0.407639006	pval	0.280087211	pval	1	pval	1	pval	0.001348303	pval	1	pval	1	pval	1
PAR	sum	140	sum	134	sum	140	sum	140	sum	55	sum	139	sum	140	sum	140	sum	140
PAR	AA	0.014285714	AA	0.850746269	TT	0.671428571	AA	0	CC	0	GG	0	AA	1	AA	0	GG	1
PAR	AG	0.135714286	AG	0.149253731	TC	0.328571429	AC	0.00E+00	CA	0	GA	0.654676259	AG	0	AG	0	GC	0
PAR	GG	0.85	GG	0	CC	0	CC	1	AA	1	AA	0.345323741	GG	0	GG	1	CC	0
PAR	pval	2.37E-01	pval	0.350543687	pval	0.020019613	pval	1	pval	1	pval	9.62006E-09	pval	1	pval	1	pval	1
MSH	sum	150	sum	141	sum	149	sum	150	sum	88	sum	150	sum	150	sum	150	sum	150
MSH	AA	0.006666667	AA	0.978723404	TT	0.986577181	AA	0	CC	0	GG	0	AA	1	AA	0	GG	1

Breed	info	HOXC8	info	RHOBTB2	info	PI3	info	GIMAP1	info	SRPRB	info	BST2B	info	GIMAP4	info	GIMAP4	info	PI3_like
MSH	AG	0.093333333	AG	0.021276596	TC	0.013422819	AC	0.00E+00	CA	0	GA	0.933333333	AG	0	AG	0	GC	0
MSH	GG	0.9	GG	0	CC	0	CC	1	AA	1	AA	0.066666667	GG	0	GG	1	CC	0
MSH	pval	3.54E-01	pval	0.898401349	pval	0.934267624	pval	1	pval	1	pval	0	pval	1	pval	1	pval	1
MRY	sum	1	sum	1	sum	1	sum	1	sum	0	sum	1	sum	1	sum	1	sum	1
MRY	AA	0	AA	1	TT	0	AA	0	CC	NaN	GG	0	AA	1	AA	0	GG	1
MRY	AG	0	AG	0	TC	1	AC	0.00E+00	CA	NaN	GA	0	AG	0	AG	0	GC	0
MRY	GG	1	GG	0	CC	0	CC	1	AA	NaN	AA	1	GG	0	GG	1	CC	0
MRY	pval	1.00E+00	pval	1	pval	0.317310508	pval	1	pval	NA	pval	1	pval	1	pval	1	pval	1
MON	sum	6	sum	6	sum	6	sum	6	sum	3	sum	6	sum	6	sum	6	sum	6
MON	AA	0	AA	1	TT	0.5	AA	0	CC	0	GG	0	AA	1	AA	0	GG	1
MON	AG	0.166666667	AG	0	TC	0.5	AC	0.00E+00	CA	0	GA	0.333333333	AG	0	AG	0	GC	0
MON	GG	0.833333333	GG	0	CC	0	CC	1	AA	1	AA	0.666666667	GG	0	GG	1	CC	0
MON	pval	8.24E-01	pval	1	pval	0.414216178	pval	1	pval	1	pval	0.624206115	pval	1	pval	1	pval	1
LIM	sum	7310	sum	6941	sum	7219	sum	7305	sum	3840	sum	7180	sum	7313	sum	7311	sum	7311
LIM	AA	0.006019152	AA	0.902895836	TT	0.406011913	AA	0	CC	0	GG	0	AA	1	AA	0	GG	1
LIM	AG	0.146922025	AG	0.097104164	TC	0.593988087	AC	0.00E+00	CA	0	GA	0.793593315	AG	0	AG	0	GC	0
LIM	GG	0.847058824	GG	0	CC	0	CC	1	AA	1	AA	0.206406685	GG	0	GG	1	CC	0
LIM	pval	7.28E-01	pval	2.12421E-05	pval	0	pval	1	pval	1	pval	0	pval	1	pval	1	pval	1
KER	sum	9	sum	7	sum	9	sum	9	sum	8	sum	9	sum	9	sum	9	sum	9
KER	AA	0	AA	0.285714286	TT	0.888888889	AA	0	CC	0	GG	0	AA	1	AA	0	GG	1
KER	AG	0.333333333	AG	0.714285714	TC	0.111111111	AC	0.00E+00	CA	0	GA	1	AG	0	AG	0	GC	0
KER	GG	0.666666667	GG	0	CC	0	CC	1	AA	1	AA	0	GG	0	GG	1	CC	0
KER	pval	5.49E-01	pval	0.141599177	pval	0.859924253	pval	1	pval	1	pval	0.002699796	pval	1	pval	1	pval	1
IRM	sum	4	sum	4	sum	4	sum	4	sum	3	sum	4	sum	4	sum	4	sum	4
IRM	AA	0	AA	1	TT	1	AA	0	CC	0	GG	0	AA	1	AA	0	GG	1
IRM	AG	0	AG	0	TC	0	AC	0.00E+00	CA	0	GA	1	AG	0	AG	0	GC	0
IRM	GG	1	GG	0	CC	0	CC	1	AA	1	AA	0	GG	0	GG	1	CC	0
IRM	pval	1.00E+00	pval	1	pval	1	pval	1	pval	1	pval	0.045500264	pval	1	pval	1	pval	1
HOL	sum	72	sum	68	sum	72	sum	72	sum	32	sum	69	sum	72	sum	72	sum	72
HOL	AA	0.083333333	AA	0.941176471	TT	0.833333333	AA	0	CC	0	GG	0	AA	1	AA	0	GG	1
HOL	AG	0.277777778	AG	0.058823529	TC	0.166666667	AC	0.00E+00	CA	0	GA	0.768115942	AG	0	AG	0	GC	0
HOL	GG	0.638888889	GG	0	CC	0	CC	1	AA	1	AA	0.231884058	GG	0	GG	1	CC	0
HOL	pval	9.56E-02	pval	0.802676137	pval	0.440476265	pval	1	pval	1	pval	2.22572E-07	pval	1	pval	1	pval	1
HLA	sum	1	sum	1	sum	1	sum	1	sum	1	sum	1	sum	1	sum	1	sum	1
HLA	AA	0	AA	1	TT	1	AA	0	CC	0	GG	0	AA	1	AA	0	GG	1
HLA	AG	0	AG	0	TC	0	AC	0.00E+00	CA	0	GA	0	AG	0	AG	0	GC	0
HLA	GG	1	GG	0	CC	0	CC	1	AA	1	AA	1	GG	0	GG	1	CC	0
HLA	pval	1.00E+00	pval	1	pval	1	pval	1	pval	1	pval	1	pval	1	pval	1	pval	1
HER	sum	623	sum	585	sum	616	sum	623	sum	431	sum	618	sum	623	sum	623	sum	623
HER	AA	0.154093098	AA	0.928205128	TT	0.767857143	AA	0	CC	0	GG	0	AA	1	AA	0	GG	1

Breed	info	HOXC8	info	RHOBTB2	info	PI3	info	GIMAP1	info	SRPRB	info	BST2B	info	GIMAP4	info	GIMAP4	info	PI3_like
HER	AG	0.471910112	AG	0.071794872	TC	0.232142857	AC	0.00E+00	CA	0	GA	0.5	AG	0	AG	0	GC	0
HER	GG	0.37399679	GG	0	CC	0	CC	1	AA	1	AA	0.5	GG	0	GG	1	CC	0
HER	pval	8.37E-01	pval	0.367816276	pval	0.001117638	pval	1	pval	1	pval	1.11022E-16	pval	1	pval	1	pval	1
GLW	sum	8	sum	8	sum	8	sum	8	sum	7	sum	8	sum	8	sum	8	sum	8
GLW	AA	0	AA	1	TT	0.875	AA	0	CC	0	GG	0	AA	1	AA	0	GG	1
GLW	AG	0	AG	0	TC	0.125	AC	0.00E+00	CA	0	GA	0.625	AG	0	AG	0	GC	0
GLW	GG	1	GG	0	CC	0	CC	1	AA	1	AA	0.375	GG	0	GG	1	CC	0
GLW	pval	1.00E+00	pval	1	pval	0.850436268	pval	1	pval	1	pval	0.198565695	pval	1	pval	1	pval	1
DXT	sum	7	sum	5	sum	7	sum	7	sum	2	sum	7	sum	7	sum	7	sum	7
DXT	AA	0	AA	1	TT	0.714285714	AA	0	CC	0	GG	0	AA	1	AA	0	GG	1
DXT	AG	0.285714286	AG	0	TC	0.285714286	AC	0.00E+00	CA	0	GA	1	AG	0	AG	0	GC	0
DXT	GG	0.714285714	GG	0	CC	0	CC	1	AA	1	AA	0	GG	0	GG	1	CC	0
DXT	pval	6.59E-01	pval	1	pval	0.659243004	pval	1	pval	1	pval	0.008150972	pval	1	pval	1	pval	1
CHA	sum	8994	sum	8466	sum	8902	sum	8988	sum	5869	sum	8890	sum	8997	sum	8996	sum	8991
CHA	AA	0.076940182	AA	0.846208363	TT	0.545720063	AA	0	CC	0	GG	0	AA	1	AA	0	GG	1
CHA	AG	0.413386702	AG	0.153791637	TC	0.454279937	AC	1.11E-04	CA	0	GA	0.492688414	AG	0	AG	0	GC	0
CHA	GG	0.509673115	GG	0	CC	0	CC	0.999888741	AA	1	AA	0.507311586	GG	0	GG	1	CC	0
CHA	pval	1.02E-01	pval	1.79856E-14	pval	0	pval	0.995791758	pval	1	pval	0	pval	1	pval	1	pval	1
BSW	sum	2	sum	1	sum	2	sum	2	sum	1	sum	2	sum	2	sum	2	sum	2
BSW	AA	0	AA	1	TT	0.5	AA	0	CC	0	GG	0	AA	1	AA	0	GG	1
BSW	AG	0	AG	0	TC	0.5	AC	0.00E+00	CA	0	GA	0.5	AG	0	AG	0	GC	0
BSW	GG	1	GG	0	CC	0	CC	1	AA	1	AA	0.5	GG	0	GG	1	CC	0
BSW	pval	1.00E+00	pval	1	pval	0.637351888	pval	1	pval	1	pval	0.637351888	pval	1	pval	1	pval	1
BBL	sum	468	sum	452	sum	468	sum	467	sum	337	sum	451	sum	468	sum	467	sum	468
BBL	AA	0.017094017	AA	0.92920354	TT	0.675213675	AA	0	CC	0	GG	0	AA	1	AA	0	GG	1
BBL	AG	0.311965812	AG	0.07079646	TC	0.324786325	AC	0.00E+00	CA	0	GA	0.764966741	AG	0	AG	0	GC	0
BBL	GG	0.670940171	GG	0	CC	0	CC	1	AA	1	AA	0.235033259	GG	0	GG	1	CC	0
BBL	pval	5.19E-02	pval	0.435276583	pval	2.73821E-05	pval	1	pval	1	pval	0	pval	1	pval	1	pval	1
BAQ	sum	222	sum	198	sum	219	sum	221	sum	174	sum	212	sum	222	sum	222	sum	222
BAQ	AA	0.009009009	AA	0.742424242	TT	0.762557078	AA	0	CC	0	GG	0	AA	1	AA	0	GG	1
BAQ	AG	0.085585586	AG	0.257575758	TC	0.237442922	AC	0.00E+00	CA	0	GA	0.806603774	AG	0	AG	0	GC	0
BAQ	GG	0.905405405	GG	0	CC	0	CC	1	AA	1	AA	0.193396226	GG	0	GG	1	CC	0
BAQ	pval	5.50E-02	pval	0.037516598	pval	0.04619575	pval	1	pval	1	pval	0	pval	1	pval	1	pval	1
AYS	sum	1	sum	1	sum	1	sum	1	sum	0	sum	1	sum	1	sum	1	sum	1
AYS	AA	0	AA	1	TT	1	AA	0	CC	NaN	GG	0	AA	1	AA	0	GG	1
AYS	AG	0	AG	0	TC	0	AC	0.00E+00	CA	NaN	GA	1	AG	0	AG	0	GC	0
AYS	GG	1	GG	0	CC	0	CC	1	AA	NaN	AA	0	GG	0	GG	1	CC	0
AYS	pval	1.00E+00	pval	1	pval	1	pval	1	pval	NA	pval	0.317310508	pval	1	pval	1	pval	1
AUB	sum	129	sum	119	sum	127	sum	127	sum	85	sum	127	sum	128	sum	129	sum	129
AUB	AA	0.007751938	AA	0.915966387	TT	0.637795276	AA	0	CC	0	GG	0	AA	1	AA	0	GG	1

Breed	info	HOXC8	info	RHOBTB2	info	PI3	info	GIMAP1	info	SRPRB	info	BST2B	info	GIMAP4	info	GIMAP4	info	PI3_like
AUB	AG	0.03875969	AG	0.084033613	TC	0.362204724	AC	0.00E+00	CA	0	GA	0.62992126	AG	0	AG	0	GC	0
AUB	GG	0.953488372	GG	0	CC	0	CC	1	AA	1	AA	0.37007874	GG	0	GG	1	CC	0
AUB	pval	2.54E-03	pval	0.632328327	pval	0.012692691	pval	1	pval	1	pval	2.2029E-07	pval	1	pval	1	pval	1
AAN	sum	1245	sum	1127	sum	1243	sum	1245	sum	511	sum	1220	sum	1245	sum	1245	sum	1244
AAN	AA	0.004016064	AA	0.7054126	TT	0.938053097	AA	0	CC	0	GG	0	AA	1	AA	0	GG	1
AAN	AG	0.134136546	AG	0.2945874	TC	0.061946903	AC	0.00E+00	CA	0	GA	0.828688525	AG	0	AG	0	GC	0
AAN	GG	0.86184739	GG	0	CC	0	CC	1	AA	1	AA	0.171311475	GG	0	GG	1	CC	0
AAN	pval	5.80E-01	pval	6.67458E-09	pval	0.259780253	pval	1	pval	1	pval	0	pval	1	pval	1	pval	1
HF	sum	10667	sum	9597	sum	10599	sum	10652	sum	4452	sum	10449	sum	10667	sum	10666	sum	10661
HF	AA	0.070122809	AA	0.808377618	TT	0.72393622	AA	0	CC	0	GG	0	AA	1	AA	0	GG	1
HF	AG	0.394956408	AG	0.191622382	TC	0.27606378	AC	0.00E+00	CA	0	GA	0.691166619	AG	0	AG	0	GC	0
HF	GG	0.534920784	GG	0	CC	0	CC	1	AA	1	AA	0.308833381	GG	0	GG	1	CC	0
HF	pval	4.33E-01	pval	0	pval	0	pval	1	pval	1	pval	0	pval	1	pval	1	pval	1