

Supplementary Table 2. RH II maps for individual horse chromosomes in tabular form along with comparative information from the human sequence map.

Horse Chr.	Marker	Map Position (cR)	Placement LOD	Assignment	Human Chr.	Human Mb (Build 36.1)
1	FGFR2	0	0.56	placed	HSA10	123.23
1	HTRA1	9.38	1.51	frame	HSA10	124.21
1	PRLHR	40.79	1.51	frame	HSA10	120.34
1	1CA30	40.79	1.51	frame_identical	HSA10	120
1	EIF3S10	49.14	2.28	placed	HSA10	120.78
1	UMNe448	67.38	0.71	placed		
1	TKY1043	108.88	0.18	placed	HSA10	118.8
1	PNLIPRP2	117.23	1.89	frame	HSA10	118.37
1	TKY1016	117.23	1.89	frame_identical		
1	NHLRC2	158.41	1.13	frame	HSA10	115.60
1	CASP7	166.71	1.39	placed	HSA10	115.43
1	ASB41	173.54	1.13	frame	HSA10	115.2
1	ZDHHC6	197.77	0.11	placed	HSA10	114.18
1	LEX039	214.06	3.09	frame	HSA10	113.9
1	LEX020	247.3	0.96	placed	HSA10	112.5
1	ADD3	259.77	3.51	frame	HSA10	111.76
1	XPNPEP1	280.12	3.51	frame	HSA10	111.61
1	UMNe467	293.79	3.13	placed		
1	VIASH034	---	[HTRA1 - PNLIPRP2]	binned		
1	HP27	---	[HTRA1 - PNLIPRP2]	binned		
1	TKY812	---	[PRLHR - NHLRC2]	binned	HSA10	118.8
1	LEX030	---	[PRLHR - NHLRC2]	binned	HSA10	118.5
1	1CA44	---	[HTRA1 - PNLIPRP2]	binned	HSA10	122.5
1	BAG3	---	[HTRA1 - PNLIPRP2]	binned	HSA10	121.40
1	TKY318	0	1.46	frame	HSA10	103.4
1	UMNe086	19.54	2.06	placed		
1	HIF1AN	31.67	1.46	frame	HSA10	102.29
1	NDUFB8	31.67	1.46	frame_identical	HSA10	102.27
1	DNMBP	31.67	1.46	frame_identical	HSA10	101.63
1	PI4KII	57.58	5.07	frame	HSA10	99.39
1	ANKRD2	57.58	5.07	frame_identical	HSA10	99.32
1	TKY597	57.58	5.07	frame_identical	HSA10	99.6
1	EXOSC1	57.58	5.07	frame_identical	HSA10	99.18
1	SLIT1	62.91	2.02	placed	HSA10	98.75
1	UMNe111	92.77	3.2	frame		
1	SORBS1	104.91	2.4	placed	HSA10	97.06
1	PDLIM1	118.01	3.2	frame	HSA10	96.99
1	PPP1R3C	166.86	0.11	placed	HSA10	93.38
1	ANKRD1	175.65	2.41	frame	HSA10	92.66

1	TKY702	182.83	0.4	placed	HSA10	92.4
1	GOT1	---	[PI4KII - TKY318]	binned	HSA10	101.15
1	IDE	---	[p-terminal - PDLIM1]	binned	HSA10	94.20
1	TKY707	---	[p-terminal - PDLIM1]	binned	HSA10	92.8
1	ACTA2	0	0	frame	HSA10	90.68
1	UMNe334/420	16.72	1.26	placed		
1	TMEM23	24.31	0	frame	HSA10	51.74
1	AHT026	24.31	0	frame_identical		
1	MINPP1	32.72	1.56	placed	HSA10	89.25
1	ACF	---	[ACTA2 - q- terminal]	binned	HSA10	52.24
1	ZWINT	0	2.53	frame	HSA10	57.79
1	CH241- 102F21_SP6	23.08	3.56	frame	HSA10	59.5
1	ANK3	46.82	3.84	frame	HSA10	61.46
1	UMNe591	63.53	2.29	placed	HSA10	61.9
1	RHOBTB1	75.51	0.59	frame	HSA10	62.30
1	COR100	75.51	0.59	frame_identical	HSA10	62.8
1	TKY659	81.96	0.19	placed	HSA10	63.3
1	COR079	81.96	0.24	placed	HSA10	63.2
1	NRBF2	93.94	0.59	frame	HSA10	64.56
1	EGR2	93.94	0.59	frame_identical	HSA10	64.24
1	NVHEQ031	93.94	0.59	frame_identical	HSA10	64
1	1CA22	---	[CH241- 102F21_SP6 - q-terminal]	binned	HSA10	59.1
1	TKY791	---	[NRBF2 - ANK3]	binned	HSA10	63.1
1	COR059	0	0.67	placed		
1	SRGN	5.35	3.08	frame	HSA10	70.52
1	UMNe120	5.35	3.08	frame_identical		
1	SUPV3L1	11.04	0.77	placed		
1	COL13A1	17.15	1.68	placed	HSA10	71.23
1	HK1	17.15	1.68	placed	HSA10	70.70
1	SAR1A	23.75	2.18	placed	HSA10	71.58
1	PRF1	30.35	3.08	frame	HSA10	72.03
1	CDH23	42.53	2	placed	HSA10	72.83
1	TKY007	42.53	2	placed	HSA10	73.4
1	PSAP	42.53	2	placed	HSA10	73.25
1	AHT113	65.15	3.85	frame		
1	ANXA7	75.2	0.31	placed	HSA10	74.81
1	VCL	79.97	3.85	frame	HSA10	75.43
1	UMNe090	79.97	3.85	frame_identical		
1	PLAU	79.97	3.85	frame_identical	HSA10	75.34
1	UM002	79.97	3.85	frame_identical	HSA10	76.7

1	VHL134	79.97	3.85	frame_identical		
1	KCNMA1	89.48	2.19	placed	HSA10	78.30
1	TKY2220	107.52	1.7	frame	HSA10	78.9
1	TKY886	125.55	1.7	frame		
1	DLG5	143.59	2.44	frame	HSA10	79.22
1	TKY706	155.46	3.74	frame		
1	UCDEQ487	184.27	2.93	frame		
1	ANXA11	195.7	2.93	frame	HSA10	81.90
1	TKY987	---	[p-terminal - PRF1]	binned		
1	ADK	---	[AHT113 - TKY2220]	binned	HSA10	75.58
1	VDAC2	---	[AHT113 - TKY2220]	binned	HSA10	76.64
1	ZNF248	0	0.62	frame	HSA10	38.16
1	HNRPF	8.92	0.71	placed	HSA10	43.20
1	CXCL12	30.16	0.62	frame	HSA10	44.19
1	UMNe520	52.39	3.87	frame		
1	AHT069	57.08	2.38	placed		
1	ASB12ms	67.54	2.28	frame	HSA1	225.2
1	AGT	97.2	3.13	placed	HSA1	228.90
1	TKY015	---	[p-terminal - CXCL12]	binned	HSA10	42.7
1	TKY013	---	[p-terminal - CXCL12]	binned		
1	RET	---	[p-terminal - CXCL12]	binned	HSA10	42.89
1	UMNe196	0	2.19	placed	HSA1	234.9
1	RYSR2	12.87	3.29	frame	HSA1	235.27
1	ACTN2	32.09	3.29	frame	HSA1	234.92
1	ICA01	51.31	1.99	placed	HSA1	232.1
1	LYST	51.31	2.37	placed	HSA1	233.89
1	TBCE	63.18	3.7	frame	HSA1	233.60
1	IRF2BP2	85.4	0.38	placed	HSA1	232.81
1	ARID4B	107.63	0.39	placed	HSA1	233.40
1	SGCV02	128.41	3.7	frame	HSA1	231.3
1	EXOC8	196.08	0.48	placed	HSA1	229.54
1	ICA36	216.96	0.37	placed	HSA1	227.8
1	GNPAT	223.99	2.84	frame	HSA1	229.44
1	UMNe099	249.5	2.84	frame		
1	ALOX5	273.52	1.99	placed	HSA10	45.19
1	ICA21	286.6	3.91	placed		
1	RBP3	300.59	5.38	frame	HSA10	48.00
1	GLUD1	307.06	2.05	placed	HSA10	88.80
1	SNCG	326.28	4.32	frame	HSA10	88.71
1	MMRN2	331.88	0.23	placed	HSA10	88.69
1	TKY670	342.36	4.32	frame	HSA10	87.5
1	RGR	358.08	5.64	frame	HSA10	85.99
1	TKY1005	369.23	1.34	placed		
1	SFTPA1	410.18	4.36	frame	HSA10	81.36
1	UMNe548	410.18	4.36	frame_identical		
1	AHT040	416.18	1.08	placed		

1	AHT021	416.18	1.08	placed		
1	BTBD1	422.66	2.37	placed	HSA15	81.48
1	UM041	422.66	2.37	placed		
1	ALPK3	443.54	3.31	frame	HSA15	83.16
1	CIB1	473.95	3.31	frame	HSA15	88.57
1	FES	473.95	3.31	frame_identical	HSA15	89.23
1	FURIN	473.95	3.31	frame_identical	HSA15	89.21
1	POLG	488.02	2.48	placed	HSA15	87.66
1	MRPS11	505.93	3.37	frame	HSA15	86.81
1	LEX077	553.78	1.63	frame		
1	COR046	579.28	1.63	frame		
1	UMNe318	597.11	2.32	placed		
1	SLCO3A1	603.12	1.9	frame	HSA15	90.20
1	TKY374	603.12	1.9	frame_identical	HSA15	90
1	CHD2	609.59	0.9	placed	HSA15	91.24
1	ASB08	616.62	0.34	placed	HSA15	92.3
1	TKY492	616.62	0.34	placed	HSA15	92.4
1	1CA32	623.66	1.9	frame	HSA15	93
1	TKY941	637.65	2.13	placed	HSA15	94.1
1	1STS01	675.48	1.77	placed		
1	ARRDC4	694.7	3.48	frame	HSA15	96.30
1	1CA20	694.7	3.48	frame_identical	HSA15	95.2
1	UMNe498	705.85	1.63	placed		
1	IGF1R	731.47	0.96	placed	HSA15	97.01
1	ALDH1A3	750.55	1.84	placed	HSA15	99.24
1	CHSY1	755.81	1.91	placed	HSA15	99.53
1	TM2D3	761.41	2.55	frame	HSA15	100.00
1	1CA28	761.41	2.55	frame_identical		
1	TKY1020	767.84	1.76	placed	HSA15	99.7
1	TJP1	780.62	1.95	placed	HSA15	27.78
1	TKY1077	791.1	4.56	placed		
1	1CA43	814.77	0.53	placed		
1	NDN	826.71	0.57	frame	HSA15	21.48
1	TKY002	843.36	0.57	frame		
1	TKY899	---	[TBCE - GNPAT]	binned	HSA1	234.1
1	CH241- 102E24_SP6	---	[TBCE - GNPAT]	binned		
1	UMNe247	---	[UMNe099 - SNCG]	binned	HSA10	49
1	TKY530	---	[RGR - ALPK3]	binned	HSA15	78.4
1	SGCV25	---	[RGR - ALPK3]	binned		
1	RPS17	---	[SFTPA1 - CIB1]	binned	HSA15	80.61
1	LEX058	---	[1CA32 - TM2D3]	binned	HSA15	95.2
1	TKY776	---	[COR046 - 1CA32]	binned	HSA15	89.7
1	UMNe471	---	[COR046 - 1CA32]	binned	HSA15	90.1

1	1CA41/1CA24	---	[LEX077 - SLCO3A1]	binned	HSA15	89.4
1	MCEE	---	[TM2D3 - TKY002]	binned	HSA2	71.19
1	HERC2	0	4.48	frame	HSA15	26.03
1	TKY933	6.99	1.38	placed		
1	TMED3	19.81	4.08	placed	HSA15	77.39
1	IREB2	19.81	4.08	placed	HSA15	76.52
1	NRG4	19.81	4.08	placed	HSA15	74.02
1	FAH	19.81	4.08	placed	HSA15	78.23
1	TSPAN3	32.62	4.48	frame	HSA15	75.13
1	1CA25	39.06	2.06	placed		
1	NEIL1	45.5	4.08	placed	HSA15	73.43
1	TKY106	51.94	2.09	placed		
1	CLK3	57.91	6.01	frame	HSA15	72.69
1	UCDEQ493	57.91	6.01	frame_identical		
1	LOXL1	63.49	2.12	placed	HSA15	72.01
1	RPLP1	69.07	4.1	placed	HSA15	67.53
1	UM043	69.07	4.1	placed		
1	NEO1	69.07	4.1	placed	HSA15	71.13
1	LARP6	85.67	1.83	frame	HSA15	68.91
1	PKM2	95.52	0.42	placed	HSA15	70.28
1	UACA	100.2	1.83	frame	HSA15	68.73
1	TKY980	137.03	2.24	frame	HSA15	69.2
1	UMNe381	234.49	2.26	frame		
1	TKY405	263.69	2.26	frame	HSA15	65.2
1	HTG12	287.26	1.73	frame		
1	TKY558	306.39	4.43	placed	HSA15	64
1	MAP2K1	306.39	4.43	placed	HSA15	64.47
1	SPG21	318.29	3.88	frame	HSA15	63.04
1	AHT058	318.29	3.88	frame_identical	HSA15	62.6
1	TRIP4	318.29	3.88	frame_identical	HSA15	62.47
1	PPIB	323.86	0.26	placed	HSA15	62.24
1	TPM1	323.86	0.26	placed	HSA15	61.12
1	TLN2	335.76	3.88	frame	HSA15	60.73
1	UM004	335.76	3.88	frame_identical		
1	LIPC	363.33	1.9	placed	HSA15	56.51
1	RORA	388.72	5.23	frame	HSA15	58.58
1	ANXA2	388.72	5.23	frame_identical	HSA15	58.43
1	UCDEQ440	388.72	5.23	frame_identical		
1	VPS13C	388.72	5.23	frame_identical	HSA15	59.93
1	MYO5A	412.3	5.23	frame	HSA15	50.39
1	HMS15	449.94	2.07	placed		
1	TKY410	449.94	2.07	placed	HSA15	50.8
1	LYSMD2	465.2	2.12	frame	HSA15	49.80
1	UMNe115	465.2	2.12	frame_identical	HSA15	49.6
1	CYP19A1	472.92	1.89	placed	HSA15	49.29
1	SPPL2A	480.63	0.85	placed	HSA15	48.79
1	TKY577	487.66	2.12	frame		
1	CYP1A2	---	[TSPAN3 - LARP6]	binned	HSA15	72.83

1	GTF2A2	---	[TLN2 - MYO5A]	binned	HSA15	57.72
1	MAPK6	---	[MYO5A - TKY577]	binned	HSA15	50.10
1	CGNL1	---	[TLN2 - LYSMD2]	binned	HSA15	55.46
1	HEST16	---	[MYO5A - TKY577]	binned		
1	TKY534	---	[TSPAN3 - LARP6]	binned		
1	B2M	0	0	frame	HSA15	42.79
1	TKY342	21.15	2.05	placed		
1	MFAP1	33.31	0	frame	HSA15	41.88
1	UMNe486	33.31	0	frame_identical	HSA15	41.5
1	CEP27	---	[B2M - q-terminal]	binned	HSA15	40.63
1	RPAP1	0	0	frame	HSA15	39.60
1	UM026	0	0	frame_identical		
1	AHT121	0	0	frame_identical		
1	GCHFR	---	[p-terminal - q-terminal]	binned	HSA15	38.84
1	TKY370	---	[p-terminal - q-terminal]	binned		
1	ACTC1	0	0	frame	HSA15	32.87
1	RYR3	0	0	frame_identical	HSA15	31.39
1	TKY295	---	[p-terminal - q-terminal]	binned		
1	TKY803	---	[p-terminal - q-terminal]	binned		
1	ICA16	0	0.57	placed		
1	NP	7.84	0	frame	HSA14	20.01
1	COR006	27.41	0.69	placed	HSA14	22.9
1	MYH6	27.41	0.7	placed	HSA14	22.92
1	CMA1	37.28	0	frame	HSA14	24.04
1	HMS07	37.28	0	frame_identical		
1	TKY2278	---	[p-terminal - CMA1]	binned	HSA14	21.1
1	MBIP	0	0.66	placed	HSA14	35.84
1	CFL2	7.02	0.69	frame	HSA14	34.25
1	PNN	32.46	0.69	frame	HSA14	38.71
1	CLEC14A	32.46	0.69	frame_identical	HSA14	37.79
1	TKY281	55.6	1.07	frame		
1	FKBP3	76.38	1.07	frame	HSA14	44.65
1	ICA40	82.8	2.34	placed	HSA14	46.4
1	COR063	82.8	2.3	placed	HSA14	46.4
1	TKY1689	95.98	2.2	frame	HSA14	36.6
1	COR053	113.88	4.23	frame		
1	KLHDC2	131.69	5.2	frame	HSA14	49.30
1	TKY728	150.89	5.46	frame		
1	TKY704	162.08	4.12	placed	HSA14	49.6
1	TKY1785	188.33	1.52	frame	HSA14	50.9
1	TKY962	203.23	1.67	placed		

1	NID2	208.49	1.52	frame	HSA14	51.54
1	AHT085	---	[TKY1689 - TKY281]	binned	HSA14	44.1
1	TKY466	---	[PNN - q- terminal]	binned	HSA14	32.6

Horse Chr.	Marker	Map Position (cR)	Placement LOD	Assignment	Human Chr.	Human Mb (Build 36.1)
2	2STS02	0	5.75	frame		
2	CYP2J2	21.82	5.75	frame	HSA1	60.13
2	TKY718	30.05	1.74	placed		
2	COR041/065	47.68	7.14	frame	HSA1	58.4
2	PRKAA2	76.37	2.4	frame	HSA1	56.88
2	PPAP2B	85.78	2.4	frame	HSA1	56.73
2	YIPF1	110.68	0.35	placed	HSA1	54.09
2	DHCR24	128.27	0.26	placed	HSA1	55.09
2	COR109	131.58	0.13	placed		
2	TTC4	131.58	0.13	placed	HSA1	54.95
2	TMEM59	134.8	2.07	frame	HSA1	54.27
2	ASB18	134.8	2.07	frame_identical	HSA1	54.4
2	UMNe563	134.8	2.07	frame_identical	HSA1	53.3
2	OSBPL9	144.18	2.07	frame	HSA1	51.86
2	NRD1	144.18	2.07	frame_identical	HSA1	52.03
2	PRPF38A	144.18	2.07	frame_identical	HSA1	52.64
2	FAF1	156.72	4.72	frame	HSA1	50.68
2	TKY384	163.13	2.32	placed		
2	C1orf165	166.42	5.73	frame	HSA1	48.97
2	HTG19	166.42	5.73	frame_identical		
2	CH241- 101D21_T7	169.7	0.51	placed	HSA1	48.7
2	PLK3	214.72	2.17	frame	HSA1	45.04
2	TKY615	223.24	1.5	placed		
2	NASP	231.32	2.17	frame	HSA1	45.82
2	LRRC41	239.09	2.39	placed	HSA1	46.52
2	FAAH	242.97	2.21	frame	HSA1	46.63
2	LEPRE1	272.34	5.35	frame	HSA1	42.98
2	NFYC	287.79	5.35	frame	HSA1	40.93
2	UMNe433	287.79	5.35	frame_identical	HSA1	41.1
2	ZMPSTE24	313.64	2.27	frame	HSA1	40.50
2	CAP1	318.04	0.28	placed	HSA1	40.28
2	PABPC4	327.28	2.27	frame	HSA1	39.80
2	MRPS15	341.16	2.07	placed	HSA1	36.69
2	EIF2C1	349.98	4.46	frame	HSA1	36.12
2	COR037	349.98	4.46	frame_identical	HSA1	35.8
2	COR078	359.22	2.56	placed	HSA1	34.8
2	TKY483	359.22	2.56	placed	HSA1	34.7
2	TKY003	359.22	2.56	placed		
2	COR090	359.22	3.78	placed		
2	CH241-	364.39	6	frame	HSA1	33.3

	100K16_T7					
2	TKY024	364.39	6	frame_identical		
2	UMNe554	375.28	0.85	placed		
2	TKY777	398.89	2.02	placed		
2	HDAC1	398.89	2.02	placed	HSA1	32.53
2	BAI2	398.89	2.02	placed	HSA1	31.97
2	UMNe513	398.89	2.02	placed	HSA1	32.3
2	2STS01	398.89	2.02	placed		
2	LAPTM5	409.83	6	frame	HSA1	30.98
2	MATN1	409.83	6	frame_identical	HSA1	30.96
2	CH241-100C12_SP6	409.83	6	frame_identical	HSA1	30.5
2	CH241-100C12_T7	409.83	6	frame_identical		
2	MECR	419.56	2.26	placed	HSA1	29.39
2	TKY974	434.18	2.13	placed	HSA1	27.6
2	WASF2	438.79	5.36	frame	HSA1	27.60
2	GPR3	438.79	5.36	frame_identical	HSA1	27.59
2	CNR2	459.38	1.95	placed	HSA1	24.07
2	TCEB3	468.6	0.34	placed	HSA1	23.94
2	FUCA1	468.6	0.34	placed	HSA1	24.04
2	AHT067	472.64	0.16	placed	HSA1	24.1
2	CLIC4	476.52	5.36	frame	HSA1	24.94
2	ASB17	476.52	5.36	frame_identical		
2	AHT073	505.03	1.78	placed		
2	UM007	505.03	1.74	placed		
2	ALPL	508.54	2.1	frame	HSA1	21.71
2	CAPZB	548.69	0.79	frame	HSA1	19.54
2	NBL1	569.83	2.42	placed	HSA1	19.84
2	HTR6	573.32	0.79	frame	HSA1	19.86
2	ZUBR1	580.11	2.66	placed	HSA1	19.27
2	CH241-102M22_SP6	583.39	4.3	frame	HSA1	18.2
2	UMNe080	586.68	0.13	placed		
2	ATP13A2	593.27	2.64	placed	HSA1	17.19
2	UCDEQ380	603.46	4.39	frame		
2	FBLIM1	614.32	4.39	frame	HSA1	15.96
2	TKY474	633.83	2.02	frame	HSA1	14.1
2	TKY784	650.72	2.02	frame		
2	DHRS3	664.75	3.74	placed	HSA1	12.55
2	NPPA	673.27	5.63	frame	HSA1	11.83
2	CLCN6	673.27	5.63	frame_identical	HSA1	11.79
2	PLOD1	673.27	5.63	frame_identical	HSA1	11.92
2	MAD2L2	681.35	1.95	placed	HSA1	11.66
2	ENO1	702.49	6.18	frame	HSA1	8.84
2	COR051	710.02	2.03	placed		
2	KIF1B	730.55	0.91	placed	HSA1	10.19
2	VAMP3	760.27	3.87	frame	HSA1	7.75
2	ACOT7	775.85	3.87	frame	HSA1	6.25
2	DFFB	804.36	1.84	frame	HSA1	3.76

2	AJAP1	819.94	1.84	frame	HSA1	4.61
2	MXRA8	873.99	4.46	frame	HSA1	1.28
2	GNB1	893.94	5.1	frame	HSA1	1.71
2	TNFRSF18	911.99	2.29	frame	HSA1	1.13
2	ISG15	925.81	2.29	frame	HSA1	0.94
2	UMNe411	---	[2STS02 - COR041/065]	binned	HSA1	59.9
2	TKY965	---	[PPAP2B - OSBPL9]	binned	HSA1	53.4
2	CPT2	---	[PPAP2B - OSBPL9]	binned	HSA1	53.43
2	UMNe449	---	[ACOT7 - AJAP1]	binned		
2	HCRTR1	---	[CH241- 100K16_T7 - WASF2]	binned	HSA1	31.86
2	TKY340	---	[TKY784 - ENO1]	binned		
2	AGTRAP	---	[TKY784 - ENO1]	binned	HSA1	11.72
2	PGD	---	[NPPA - VAMP3]	binned	HSA1	10.38
2	NMNAT1	---	[NPPA - VAMP3]	binned	HSA1	9.93
2	EXOSC10	---	[NPPA - VAMP3]	binned	HSA1	11.05
2	HSPG2	---	[CLIC4 - CAPZB]	binned	HSA1	22.02
2	ECE1	---	[CLIC4 - CAPZB]	binned	HSA1	21.42
2	HP1BP3	---	[CLIC4 - CAPZB]	binned	HSA1	20.94
2	EIF4G3	---	[CLIC4 - CAPZB]	binned	HSA1	21.01
2	FAM54B	---	[WASF2 - ALPL]	binned	HSA1	26.02
2	MAN1C1	---	[WASF2 - ALPL]	binned	HSA1	25.82
2	UMNe323	---	[ZMPSTE24 - EIF2C1]	binned	HSA1	38.7
2	GNL2	---	[ZMPSTE24 - EIF2C1]	binned	HSA1	37.81
2	CSF3R	---	[PABPC4 - CH241- 100K16_T7]	binned	HSA1	36.70
2	STK40	---	[PABPC4 - CH241- 100K16_T7]	binned	HSA1	36.58
2	AHT035	---	[EIF2C1 - LAPTM5]	binned	HSA1	33.8
2	LPL	0	2.97	frame	HSA8	19.84
2	SFTPC	23.74	1.94	frame	HSA8	22.08
2	PDLIM2	27.55	1.03	placed	HSA8	22.49
2	TKY2565	42.75	2.05	frame	HSA8	21.8
2	NKX3-1	54.14	2.05	frame	HSA8	23.59
2	KCTD9	69.92	6.76	frame	HSA8	25.34
2	COR049	106	3.6	frame		
2	STMN4	137.53	4.45	frame	HSA8	27.15
2	PNOC	148.91	2.54	frame	HSA8	28.23
2	MSRA	159.9	2.54	frame	HSA8	9.95
2	TKY381	170.89	1.82	placed	HSA8	29.1
2	AHT012	194.41	0.48	placed		
2	TKY1171	198.88	3.79	frame		
2	CTSB	207.44	2.42	placed	HSA8	11.74

2	HMGB2	211.72	3.79	frame	HSA4	174.49
2	HMS16	234.17	1.95	frame		
2	COR108	242.37	2.6	placed		
2	CBR4	250.57	0.38	placed	HSA4	170.15
2	KIAA0922	258.44	1.95	frame	HSA4	154.61
2	UMNe330	262.09	1.97	placed	HSA4	170
2	2STS03	280.46	2.48	placed	HSA4	164.66
2	TKY358	287.11	2.48	placed		
2	UM029	293.76	1.1	placed		
2	KLHL2	293.76	1.19	placed	HSA4	166.35
2	COR094	311.56	1.3	placed		
2	UMNe242	328.78	2.48	placed		
2	A-14	376.52	1.99	frame		
2	ASB13	388.83	1.99	frame		
2	TKY645	401.68	2.3	frame		
2	MAP9	415.13	2.44	placed	HSA4	156.48
2	FGA	419.62	4.07	frame	HSA4	155.72
2	FGG	419.62	4.07	frame_identical	HSA4	155.74
2	TLR2	424.32	2.45	placed	HSA4	154.82
2	TKY850	434.85	4.07	frame	HSA4	154.8
2	TKY511	455.92	4.19	frame	HSA4	154.2
2	TKY1054	473.97	4.48	placed	HSA4	152.4
2	TKY701	477.93	2.41	placed	HSA4	151
2	TKY2717	477.93	2.41	placed	HSA4	151.3
2	UMNe226	477.93	2.41	placed	HSA4	151.1
2	TKY1907	485.81	0.43	placed	HSA4	150.5
2	TMEM34	493.68	4.07	frame	HSA4	148.76
2	SLC10A7	505.99	4.07	frame	HSA4	147.58
2	UMNe076	535.19	0.13	placed		
2	CH241- 100G3_T7_MS	565.66	2.6	placed	HSA4	147.4
2	SMARCA5	570.15	4.54	frame	HSA4	144.65
2	TKY944	585.88	4.15	frame	HSA4	143.9
2	PCDH18	606.89	4.15	frame	HSA4	138.66
2	ZNF330	625.71	3.43	placed	HSA4	142.36
2	UMNe236	625.71	3.38	placed	HSA4	139.7
2	TKY335	625.71	2.27	placed	HSA4	142.2
2	UCP1	629.65	2.9	frame	HSA4	141.70
2	TBC1D9	642.5	2.9	frame	HSA4	141.76
2	UMNe129	---	[HMGB2 - KIAA0922]	binned		
2	CLU	---	[STMN4 - MSRA]	binned	HSA8	27.51
2	UMNe405	---	[STMN4 - MSRA]	binned	HSA8	28.2
2	FDFT1	---	[MSRA - HMS16]	binned	HSA8	11.70
2	TKY605	---	[MSRA - HMGB2]	binned		
2	NARG1	---	[PCDH18 - TBC1D9]	binned	HSA4	140.44
2	ABCE1	---	[TMEM34 - SMARCA5]	binned	HSA4	146.24
2	FGB	---	[TKY645 - TKY850]	binned	HSA4	155.70

2	UMNe205	---	[A-14 - TKY645]	binned		
2	TKY313	---	[A-14 - TKY645]	binned		
2	Tenr	0	1.57	frame	HSA4	123.52
2	UMNe396	12.71	0.83	placed		
2	SPATA5	31.68	1.57	frame	HSA4	124.06
2	UMNe488	31.68	1.57	frame_identical		
2	TKY497	31.68	1.57	frame_identical	HSA4	124.7
2	TNIP3	50.66	4.14	frame	HSA4	122.27
2	UMNe374	62.46	0.16	placed	HSA4	121.7
2	UMNe336	62.46	0.16	placed	HSA4	121.8
2	FABP2	68.38	4.14	frame	HSA4	120.46
2	TKY1142	87.46	2.38	placed		
2	AHT065	93.02	1.87	frame		
2	VHL123	93.02	1.87	frame_identical		
2	UGT8	98.23	2.46	placed	HSA4	115.76
2	TKY2970	98.23	2.46	placed	HSA4	115.9
2	TKY1192	103.41	0.23	placed	HSA4	111.1
2	CFI	108.3	1.87	frame	HSA4	110.88
2	COR043	108.3	1.87	frame_identical		
2	TKY842	118.1	2.33	placed	HSA4	107.9
2	COR026	149.47	2.92	frame	HSA4	109.5
2	COR035	155.85	1.36	placed	HSA4	107.9
2	TRAM1L1	---	[FABP2 - CFI]	binned	HSA4	118.22
2	TKY903	---	[CFI - q-terminal]	binned		

Horse Chr.	Marker	Map Position (cR)	Placement LOD	Assignment	Human Chr.	Human Mb (Build 36.1)
3	PHKB	0	0.87	frame	HSA16	46.05
3	VPS35	12.93	0.87	frame	HSA16	45.25
3	TKY590	25.53	3.43	frame	HSA16	47.7
3	BRD7	51.2	11.01	frame	HSA16	48.91
3	AKTIP	75.21	1.96	frame	HSA16	52.08
3	AHT118	83.87	1.96	frame		
3	MMP2	131.16	4.45	frame	HSA16	54.07
3	TKY2482	173.93	5.25	frame	HSA16	58.7
3	COR028	215.76	3.15	frame	HSA16	57.8
3	GOT2	224.26	2.39	frame	HSA16	57.30
3	TKY450	232.26	1.02	frame		
3	CNOT1	243.16	3.93	frame	HSA16	57.11
3	CIAPIN1	261.78	4.31	frame	HSA16	56.02
3	UMNe538	277.6	1.8	frame	HSA16	60.3
3	COR033	286.38	1.8	frame		
3	TKY1323	298.14	2.56	frame	HSA16	63.7
3	TKY3084	301.06	4.4	placed	HSA16	64.1
3	TKY1082	301.06	2.72	placed		
3	SGCV18	304.03	4.62	frame		
3	TKY937	316.62	6.37	frame	HSA16	64.6
3	3STS01	325.87	5.69	frame		
3	TKY1150	341.73	5.69	frame		

3	CBFB	373.18	2.18	placed	HSA16	65.62
3	PSMB10	376.3	1.83	frame	HSA16	66.53
3	NFAT5	385.95	0.59	placed	HSA16	68.16
3	PSMD7	385.95	0.59	placed	HSA16	72.89
3	HP	392.54	1.83	frame	HSA16	70.65
3	AHT022	392.54	1.83	frame_identical		
3	TKY1085	399.17	4.62	placed	HSA16	69.8
3	VAC14	416.96	2.3	placed	HSA16	69.28
3	GLG1	430.62	3.74	frame	HSA16	73.04
3	FUK	439.8	3.74	frame	HSA16	69.05
3	GABARAPL2	461.14	9.57	frame	HSA16	74.16
3	KARS	461.14	9.57	frame_identical	HSA16	74.22
3	CLEC3A	486.82	5.95	frame	HSA16	76.61
3	UMNe516	500.48	5.85	frame		
3	UMNe557	515.02	5.64	frame		
3	C16orf61	548.47	6.98	frame	HSA16	79.57
3	MPHOSPH6	564.29	6.98	frame	HSA16	80.74
3	UMNe311	582.9	2.03	frame	HSA16	82.9
3	AHT090	585.75	2.18	placed	HSA16	82.6
3	UCDEQ437	594.53	2.4	placed		
3	MBTPS1	600.36	2.03	frame	HSA16	82.64
3	COX4I1	633.87	2.86	frame	HSA16	84.39
3	UMNe317	675.18	2.86	frame		
3	RPL13	739.55	3.34	frame	HSA16	88.15
3	LEX057	744.95	3.44	placed		
3	MC1R	750.57	2.57	placed	HSA16	88.51
3	GAS8	753.43	3.34	frame	HSA16	88.62
3	UMNe158	---	[PSMB10 - GLG1]	binned	HSA16	71.7
3	UMNe182	---	[PSMB10 - GLG1]	binned	HSA16	71.6
3	SLC12A4	---	[TKY1150 - HP]	binned	HSA16	66.54
3	AHT036	---	[TKY590 - AKTIP]	binned		
3	HMS61	---	[RPL13 - q- terminal]	binned		
3	UMNe068	0	0	frame	HSA4	103.5
3	UMNe541	0	0	frame_identical		
3	TKY651	7.94	2.18	placed		
3	UMNe231	38.57	0	frame	HSA4	95.8
3	PPP3CA	0	3.05	frame	HSA4	102.16
3	MAP2K1IP1	12.94	2.37	frame	HSA4	101.02
3	TKY528	26.5	1.05	frame	HSA4	100.8
3	ADH1B	48.09	1.36	placed	HSA4	100.45

3	ADH1A	51.77	1.05	frame	HSA4	100.42
3	ABCG2	0	0.29	placed	HSA4	89.23
3	SPARCL1	3.64	0.81	frame	HSA4	88.61
3	HSD17B11	15.91	0.81	frame	HSA4	88.48
3	SEC31A	44.45	2.81	frame	HSA4	83.96
3	HNRPDL	52.97	0.9	placed	HSA4	83.56
3	UMNe527	70.07	2.81	frame	HSA4	81.5
3	TKY990	94.87	2.27	frame	HSA4	81.4
3	TKY353	115.05	0.61	placed		
3	CCNI	123.37	2.27	frame	HSA4	78.19
3	CXCL9	127.28	1.87	placed	HSA4	77.14
3	THAP6	154.26	0.82	placed	HSA4	76.66
3	ALB	164.31	1.52	placed	HSA4	74.49
3	CXCL6	167.63	4.58	frame	HSA4	74.92
3	IL8	167.63	4.58	frame_identical	HSA4	74.83
3	TKY1129	170.85	1.54	placed		
3	NVHEQ102	207.59	3.68	frame		
3	YTHDC1	251.89	1.16	frame	HSA4	68.86
3	GNRHR	266.44	1.16	frame	HSA4	68.29
3	CSN3	278.83	3.09	frame	HSA4	71.14
3	SULT1E1	285.13	1.16	placed	HSA4	70.74
3	TKY447	301.53	2.53	frame	HSA4	64.9
3	TKY874	314.19	2.53	frame	HSA4	63.1
3	TKY1154	323.91	3.72	frame	HSA4	62.8
3	TKY1146	357.09	3.51	frame	HSA4	59.7
3	TKY840	361	1.8	placed	HSA4	60.5
3	TKY569	389.36	1.84	frame		
3	UMNe576	411.79	1.84	frame		
3	UMNe082	430.17	0.13	placed		
3	IGFBP7	433.4	2.05	frame	HSA4	57.59
3	3CA001	443.69	2.05	frame		
3	TKY905	461.47	4.39	frame		
3	TKY1918	478.26	6.19	frame	HSA4	56.3
3	KDR	494.6	7.78	frame	HSA4	55.64
3	KIT	504.06	4.57	placed	HSA4	55.22
3	PDGFRA	510.35	5.77	frame	HSA4	54.79
3	ASB23	513.58	2.22	placed	HSA4	53.5
3	OCIAD1	530.82	1.76	frame	HSA4	48.53
3	HTG02	540.54	1.76	frame		
3	CH241- 100F24_T7	561.3	3.08	frame		
3	VHL063	561.3	3.08	frame_identical		
3	CH241- 100F24_SP6	561.3	3.08	frame_identical	HSA4	42.5
3	LIAS	581.47	2.3	frame	HSA4	39.14
3	FAM114A1	590.93	2.63	placed	HSA4	38.55
3	RFC1	590.93	2.63	placed	HSA4	38.97
3	RHOH	594.16	2.3	frame	HSA4	39.87
3	UCHL1	601	2.45	placed	HSA4	40.95
3	TKY2924	601	1.96	placed	HSA4	41.7
3	TKY837	604.54	3.77	frame		

3	UMNe600	625.09	0.11	placed		
3	PCDH7	629.17	5.1	frame	HSA4	30.33
3	AHT097	662.36	1.76	frame		
3	ANAPC4	674.63	1.76	frame	HSA4	24.99
3	DHX15	699.35	3.98	frame	HSA4	24.14
3	PPARGC1A	714.02	3.98	frame	HSA4	23.40
3	TKY427	732.4	4.08	frame		
3	TKY1037	767.77	6.34	frame	HSA4	18.2
3	TKY910	811.78	0.97	placed	HSA4	15.1
3	C1QTNF7	821.77	0.46	placed	HSA4	14.95
3	FBXL5	824.91	4.94	frame	HSA4	15.22
3	UMNe251	835.2	4.94	frame		
3	TKY780	861.16	1	frame		
3	SLC2A9	873.42	1	frame	HSA4	9.44
3	LYAR	876.84	2.57	placed	HSA4	4.32
3	MRFAP1	886.83	8.14	frame	HSA4	6.69
3	CNO	889.97	2.32	placed	HSA4	6.77
3	GRPEL1	893.12	4.65	placed	HSA4	7.11
3	TKY1174	905.77	7.09	frame		
3	ADD1	929.39	2.27	placed	HSA4	2.82
3	DOK7	932.61	3.5	frame	HSA4	3.43
3	FGFR3	942.6	2.84	frame	HSA4	1.77
3	TKY434	952.07	2.84	frame	HSA4	0.6
3	RNF4	---	[DOK7 - TKY434]	binned	HSA4	2.44
3	UMNe529	---	[DOK7 - TKY434]	binned		
3	WDR1	---	[TKY780 - MRFAP1]	binned	HSA4	9.69
3	UMNe113	---	[TKY780 - MRFAP1]	binned		
3	UMNe439	---	[TKY1037 - UMNe251]	binned		
3	UMNe175	---	[SLC2A9 - TKY1174]	binned		
3	COR005	---	[AHT097 - DHX15]	binned		
3	UMNe178	---	[LIAS - TKY837]	binned		
3	LEX007	---	[LIAS - TKY837]	binned	HSA4	40.3

Horse Chr.	Marker	Map Position (cR)	Placement LOD	Assignment	Human Chr.	Human Mb (Build 36.1)
4	NVHEQ029	0	1.55	frame		
4	PSMC2	3.03	1.5	placed	HSA7	102.78
4	NAPE-PLD	3.03	2.59	placed	HSA7	102.53
4	AHT043	6.19	0.29	placed	HSA7	77.2
4	UMNe110	6.19	0.29	placed	HSA7	77
4	UMNe192	6.19	0.29	placed	HSA7	77
4	MAGI2	9.37	1.55	frame	HSA7	77.48

4	PTPN12	9.37	1.55	frame_identical	HSA7	77.00
4	SEMA3C	32.31	2.05	frame	HSA7	80.21
4	TKY810	44.63	2.05	frame		
4	SRPK2	68.88	1.69	placed	HSA7	104.54
4	AHT084	111.73	3.74	frame		
4	TKY797	142.35	3.74	frame	HSA7	105.2
4	HMS56	159.32	2.13	placed		
4	UMNe587	159.32	2.13	placed	HSA7	106
4	HBP1	162.01	5.98	frame	HSA7	106.60
4	LAMB1	180.22	2.6	frame	HSA7	107.35
4	DLD	191.97	2.6	frame	HSA7	107.32
4	TKY223	200.41	4.98	frame		
4	TRG@	208.69	2.6	frame	HSA7	38.25
4	VPS41	216.83	2.6	frame	HSA7	38.73
4	C7orf10	234.31	4.8	frame	HSA7	40.14
4	CDC2L5	242.74	0.37	placed	HSA7	39.96
4	CH241- 100K23_T7	248.23	4.8	frame	HSA7	40.7
4	INHBA	256.67	6.87	frame	HSA7	41.70
4	UMNe224	267.77	2.84	frame	HSA7	42
4	UMNe561	273	2.4	placed		
4	GLI3	289.84	2.84	frame	HSA7	41.97
4	TKY958	326.93	3.92	frame		
4	DDX56	383.05	1.61	placed	HSA7	44.57
4	POLM	396.81	2.11	frame	HSA7	44.08
4	GCK	405	2.11	frame	HSA7	44.15
4	PGAM2	413.34	0.95	frame	HSA7	44.07
4	MYO1G	421.77	4.58	frame	HSA7	44.97
4	TKY942	427.5	5.17	placed		
4	IGFBP1	435.96	6.03	frame	HSA7	45.89
4	UMNe404	441.23	3.48	placed		
4	TKY922	452.27	6.03	frame		
4	UMNe063	473.03	3.66	frame		
4	COBL	484.03	3.66	frame	HSA7	51.05
4	ASB03	525.7	3.31	frame	HSA7	53.7
4	CH241- 112H8_SP6	538.39	0.29	placed	HSA7	55
4	EGFR	545.65	3.31	frame	HSA7	55.05
4	TRGV10	---	[TKY223 - VPS41]	binned	HSA7	38.31
4	CACNA2D1	0	2.85	frame	HSA7	81.42
4	PCLO	24.51	2.85	frame	HSA7	82.23
4	TKY772	68.33	1.35	placed	HSA7	83.4
4	TKY337	107.71	5.31	frame		
4	HTG01	140.53	2.37	frame		
4	SRI	155.02	2.37	frame	HSA7	87.67
4	TKY935	157.76	2.19	placed	HSA7	86.2
4	C7orf23	168.98	2.73	frame	HSA7	86.66
4	GRM3	187.57	2.73	frame	HSA7	86.11
4	COR057	193.93	1.1	placed		
4	STEAP1,2	209.46	0.71	placed	HSA7	89.6

4	AHT006	209.46	0.71	placed		
4	CYP51A1	218.27	3.98	frame	HSA7	91.58
4	TKY1063	218.27	3.98	frame_identical	HSA7	90.3
4	AKAP9	224.16	2.56	placed	HSA7	91.41
4	CCDC132	227.03	3.98	frame	HSA7	92.70
4	ASB29	233.01	2.36	placed	HSA7	92.2
4	SLC25A13	246	1.45	frame	HSA7	95.59
4	UMNe249	252.32	0.21	placed	HSA7	96.2
4	COL1A2	258.51	1.24	placed	HSA7	93.86
4	PON1	261.44	1.45	frame	HSA7	94.76
4	TKY210	261.44	1.45	frame_identical		
4	NDUFA4	296.41	8.24	frame	HSA7	10.94
4	TKY2982	332.22	5.11	frame	HSA7	11.5
4	PHF14	339.07	1.58	placed	HSA7	10.98
4	CH241-100O5_SP6	342.53	2.28	placed	HSA7	11.1
4	NXPH1	349.36	1.39	frame	HSA7	8.44
4	LEX061	349.36	1.39	frame_identical	HSA7	8.4
4	TKY953	370.02	1.02	placed	HSA7	7.7
4	FLJ20323	378.16	1.39	frame	HSA7	7.57
4	ARL4A	400.27	4.13	frame	HSA7	12.69
4	SCIN	406.9	1.89	placed	HSA7	12.60
4	TKY586	413.54	2.78	placed		
4	TKY1079	416.76	6.37	frame		
4	MEOX2	427.36	6.81	frame	HSA7	15.62
4	TKY639	427.36	6.81	frame_identical		
4	SOSTDC1	434.96	1.4	placed	HSA7	16.47
4	ANKMY2	438.75	6.79	frame	HSA7	16.61
4	LEX050	438.75	6.79	frame_identical	HSA7	16.7
4	SNX13	453.58	5.31	frame	HSA7	17.80
4	AHT013	460.5	2.76	placed		
4	UMNe199	467.34	2.83	frame		
4	TKY2805	485.14	0.52	frame	HSA7	20.9
4	ITGB8	495.48	0.52	frame	HSA7	20.34
4	TKY1089	514.49	1.84	frame	HSA7	22.4
4	IL6	540.43	0.99	placed	HSA7	22.73
4	NPY	551.86	1.84	frame	HSA7	24.29
4	CBX3	555.17	2.28	placed	HSA7	26.21
4	UMNe551	558.5	2.5	placed	HSA7	26.6
4	TKY830	565.18	0.3	placed	HSA7	27.6
4	HIBADH	568.34	5.28	frame	HSA7	27.53
4	VHL088	602.06	2.18	frame		
4	ASB22	619.4	2.22	frame		
4	TKY1059	625.93	0.64	placed		
4	CREB5	629.26	2.39	frame	HSA7	28.31
4	LEX033	629.26	2.39	frame_identical		
4	CPVL	632.67	2.76	placed	HSA7	29.00
4	NOD1	636.19	0.17	placed	HSA7	30.43
4	GARS	636.19	0.17	placed	HSA7	30.60
4	FLJ22374	636.19	0.16	placed	HSA7	30.78
4	PLEKHA8	639.71	2.73	frame	HSA7	30.03

4	NEUROD6	655.45	4.7	frame	HSA7	31.34
4	BMPER	671.83	6.38	frame	HSA7	33.91
4	BBS9	679.25	2.72	placed	HSA7	33.14
4	UMNe104	679.25	2.59	placed		
4	HTG07	679.25	2.59	placed		
4	TKY1717	682.56	2.48	placed	HSA7	33.7
4	TBX20	689.2	4.67	frame	HSA7	35.24
4	TKY552	689.2	4.67	frame_identical	HSA7	35.2
4	TKY300	689.2	4.67	frame_identical		
4	KIAA0895	692.51	2.61	placed	HSA7	36.33
4	ANLN	699.56	4.51	frame	HSA7	36.40
4	DNAJB9	711.34	4.51	frame	HSA7	108.00
4	UMNe101	740.25	4.7	frame	HSA7	108.9
4	TKY354	773.75	0.42	placed	HSA7	110.4
4	HTG09	798.04	2.22	frame		
4	PPP1R3A	812.21	2.22	frame	HSA7	113.30
4	TFEC	815.87	2.59	placed	HSA7	115.36
4	HMS19	827.8	1.41	placed		
4	TES	831.73	4.46	frame	HSA7	115.64
4	TKY375	831.73	4.46	frame_identical	HSA7	114.5
4	MDFIC	831.73	4.46	frame_identical	HSA7	114.35
4	FOXP2	835.64	0.12	placed	HSA7	113.84
4	CAPZA2	847.9	0.43	placed	HSA7	116.29
4	CFTR	851.85	0.17	placed	HSA7	116.91
4	ANKRD7	855.67	4.06	frame	HSA7	117.65
4	LSM8	863.5	0.31	placed	HSA7	117.61
4	ING3	898.08	4.25	frame	HSA7	120.38
4	TKY1044	898.08	4.25	frame_identical	HSA7	120.1
4	KCND2	898.08	4.25	frame_identical	HSA7	119.70
4	TKY661	909.04	4.86	placed		
4	CADPS2	916.33	5.09	frame	HSA7	121.75
4	TKY833	916.33	5.09	frame_identical	HSA7	121.4
4	WASL	927	5.09	frame	HSA7	123.11
4	TKY977	941.74	3.6	placed	HSA7	124.8
4	GPR37	966.59	1.01	placed	HSA7	124.17
4	TKY3083	1011.04	2.44	placed	HSA7	126.2
4	ARF5	1022.54	1.24	frame	HSA7	127.02
4	LEP	1033.5	2.37	frame	HSA7	127.67
4	ATP6V1F	1043.49	2.37	frame	HSA7	128.29
4	PARP12	1056.55	0.39	placed	HSA7	139.37
4	HMS09	1069.62	2.5	placed	HSA7	128.9
4	ZC3HC1	1072.86	2.89	placed	HSA7	129.45
4	MEST	1079.73	2.39	frame	HSA7	129.91
4	AHT108	1102.76	4.4	frame	HSA7	130.6
4	CHCHD3	1128.67	2.47	frame	HSA7	132.12
4	TKY1099	1147.06	1.5	placed	HSA7	131.9
4	COR047	1154.35	2.47	frame		
4	BPGM	1175.74	2.23	frame	HSA7	133.98
4	CALD1	1178.9	0.39	placed	HSA7	134.11
4	MTPN	1185.22	2.23	frame	HSA7	135.26

4	UMNe256	1198.57	2.22	frame	HSA7	136.4
4	FLNC	1220.81	5.97	frame	HSA7	128.26
4	CLCN1	1236.17	1.11	frame	HSA7	142.72
4	TKY363	1244.05	2.66	placed	HSA7	142.6
4	TKY1030	1248.12	4.54	frame	HSA7	141.5
4	AHT061	1261.48	3.91	frame		
4	UMNe174	1274.25	2.67	frame		
4	UMNe172	1297.42	0.62	frame	HSA7	144.3
4	TKY2101	1320.47	0.62	frame	HSA7	144
4	UMNe377	1336.21	3.63	frame	HSA7	147.7
4	TKY430	1356.74	2.02	frame		
4	GIMAP4	1372.48	2.02	frame	HSA7	149.90
4	NOS3	1383.83	6.04	frame	HSA7	150.32
4	PRKAG2	1383.83	6.04	frame_identical	HSA7	150.88
4	SGCV23	1387.74	0.3	placed		
4	ABCF2	1391.8	0.5	placed	HSA7	150.54
4	MLL3	1427	0.75	frame	HSA7	151.46
4	DNAJB6	1450.68	4	frame	HSA7	156.82
4	AHT042	1454.94	1.64	placed		
4	TKY820	1459.27	1.47	frame	HSA7	155.7
4	EN2	1472.73	1.45	frame	HSA7	154.94
4	AHT009	1481.28	1.82	placed		
4	MPP6	---	[TKY1089 - HIBADH]	binned	HSA7	24.58
4	IGF2BP3	---	[ITGB8 - NPY]	binned	HSA7	23.32
4	UMNe544	---	[TKY1089 - HIBADH]	binned	HSA7	25.7
4	SKAP2	---	[TKY1089 - HIBADH]	binned	HSA7	26.67
4	AHR	---	[ANKMY2 - UMNe199]	binned	HSA7	17.30
4	COR089	---	[VHL088 - CREB5]	binned	HSA7	28.8
4	UMNe054	---	[CREB5 - NEUROD6]	binned	HSA7	29.6
4	KBTBD2	---	[NEUROD6 - TBX20]	binned	HSA7	32.87
4	UMNe112	---	[HIBADH - ASB22]	binned	HSA7	32.2
4	HERPUD2	---	[BMPER - ANLN]	binned	HSA7	35.64
4	AOAH	---	[TBX20 - UMNe101]	binned	HSA7	36.52
4	TKY720	---	[PPP1R3A - ANKRD7]	binned	HSA7	113.3
4	VHL057	---	[COR047 - MTPN]	binned		
4	TKY1110	---	[FLNC - TKY1030]	binned		
4	HTG22	---	[UMNe174 - UMNe377]	binned		
4	TKY818	---	[ATP6V1F -	binned		

4	LMBR1	---	AHT108] [DNAJB6 - EN2]	binned	HSA7	156.17
4	UMNe138	---	[NXPH1 - ARL4A]	binned	HSA7	7.6
4	PON2	---	[SLC25A13 - NDUFA4]	binned	HSA7	94.87

Horse Chr.	Marker	Map Position (cR)	Placement LOD	Assignment	Human Chr.	Human Mb (Build 36.1)
5	PLEKHA6	0	3.59	frame	HSA1	202.45
5	TKY041	25.89	1.94	placed		
5	NUCKS1	32.99	3.59	frame	HSA1	203.95
5	MAPKAPK2	55.93	5.14	frame	HSA1	204.92
5	IL10	67.8	2.16	placed	HSA1	205.01
5	CH241- 100A3_SP6	71.92	5.14	frame	HSA1	205.2
5	C4BPB	71.92	5.14	frame_identical	HSA1	205.33
5	FAIM3	71.92	5.14	frame_identical	HSA1	205.14
5	C4BPA	71.92	5.14	frame_identical	HSA1	205.34
5	ATP1B1	106.53	3.51	frame	HSA1	167.34
5	F5	121.25	3.51	frame	HSA1	167.75
5	TKY508	121.25	3.51	frame_identical	HSA1	166.5
5	TKY1909	121.25	3.51	frame_identical	HSA1	167.5
5	SERPINC1	147.13	3.84	frame	HSA1	172.14
5	LEX004	147.13	3.84	frame_identical		
5	FASLG	147.13	3.84	frame_identical	HSA1	170.89
5	UMNe220	147.13	3.84	frame_identical		
5	PIGC	155.73	1.87	placed	HSA1	170.68
5	CACYBP	168.64	3.84	frame	HSA1	173.24
5	TKY1175	181.54	0.15	placed	HSA1	171.3
5	AHT024	206.56	4.29	frame	HSA1	173.7
5	UMNe230	206.56	4.29	frame_identical	HSA1	173.3
5	UMNe454	206.56	4.29	frame_identical	HSA1	173.4
5	TKY1108	206.56	4.29	frame_identical	HSA1	173.4
5	TKY1777	221.56	2.23	frame	HSA1	174.9
5	TOR1AIP2	235.77	2.23	frame	HSA1	178.08
5	SOAT1	240.27	0.2	placed	HSA1	177.53
5	UMNe412	259.23	4.52	placed	HSA1	177.8
5	CH241- 101I11_T7	267.46	1.95	frame	HSA1	180.4
5	RGS16	271.42	0.12	placed	HSA1	180.83
5	5CA001	275.53	2.63	placed	HSA1	179.9
5	NCF2	279.68	2.26	placed	HSA1	181.79
5	LAMC1	279.68	2.27	placed	HSA1	181.26
5	RNF2	287.91	0.12	placed	HSA1	183.28
5	IVNS1ABP	292.03	1.95	frame	HSA1	183.53
5	HMCN1	300.27	2.42	placed	HSA1	183.97
5	PTGS2	312.63	2.25	placed	HSA1	184.91
5	PDC	320.54	3.82	frame	HSA1	184.68

5	PRG4	320.54	3.82	frame_identical	HSA1	184.53
5	TPR	320.54	3.82	frame_identical	HSA1	184.55
5	PLA2G4A	324.21	2.36	placed	HSA1	185.06
5	AHT068	331.31	2.59	placed	HSA1	210.4
5	SNFT	334.74	2.26	frame	HSA1	210.93
5	FLVCR	346.17	2.26	frame	HSA1	211.10
5	AHT066	358.04	2.3	frame	HSA1	206
5	TKY464	358.04	2.3	frame_identical	HSA1	208
5	NVHEQ122	365.95	0.28	placed		
5	SYT14	377.82	0.13	placed	HSA1	208.18
5	TRAF3IP3	381.49	0.26	placed	HSA1	208.00
5	TKY2544	381.49	0.26	placed	HSA1	206.3
5	VHL66	389.39	1.27	placed		
5	TKY887	412.09	2.41	frame	HSA1	204.4
5	TMCO1	425.58	4.25	frame	HSA1	163.96
5	TKY1163	442.8	2.1	frame	HSA1	162.2
5	RGS5	466.51	1.95	frame	HSA1	161.38
5	APOA2	487.98	2.01	placed	HSA1	159.46
5	DEDD	497.48	1.95	frame	HSA1	159.36
5	NDUFS2	---	[RGS5 - q-terminal]	binned	HSA1	159.44
5	FMOD	---	[p-terminal - NUCKS1]	binned	HSA1	201.58
5	UAP1	---	[TKY1163 - DEDD]	binned	HSA1	160.80
5	TKY731	---	[TKY1777 - CH241-101I11_T7]	binned	HSA1	176.4
5	ATF3	---	[FLVCR - TKY887]	binned	HSA1	210.81
5	TKY271	---	[SNFT - AHT066]	binned		
5	UMNe108/163	---	[PDC - FLVCR]	binned		
5	TKY456	---	[FLVCR - TKY887]	binned	HSA1	205
5	INTS7	---	[SNFT - AHT066]	binned	HSA1	210.18
5	PPP2R5A	---	[PDC - FLVCR]	binned	HSA1	210.53
5	CH241-101P7_T7	---	[IVNS1ABP - SNFT]	binned	HSA1	213.1
5	ATP1A2	0	0.57	frame	HSA1	158.35
5	COPA	15.41	0.57	frame	HSA1	158.53
5	CASQ1	31.43	3.09	frame	HSA1	158.43
5	WDR42A	35.43	1.97	placed	HSA1	158.45
5	TKY889	76.73	3.68	frame	HSA1	152.8
5	RUSC1	102.98	6.01	frame	HSA1	153.56
5	KIAA0907	113.41	6.01	frame	HSA1	154.15
5	GBA	113.41	6.01	frame_identical	HSA1	153.47
5	PKLR	113.41	6.01	frame_identical	HSA1	153.53
5	KRTCAP2	123.89	2.59	placed	HSA1	153.41
5	TPM3	127.48	2.23	frame	HSA1	152.40

5	S100A1	134.89	2.4	placed	HSA1	151.87
5	S100A9	138.46	2.23	frame	HSA1	151.60
5	TKY644	138.46	2.23	frame_identical		
5	S100A7	142.16	1.3	placed	HSA1	151.70
5	TKY489	167.45	1.75	frame	HSA1	155
5	PRKAB2	193.67	3.74	frame	HSA1	145.09
5	UMNe604	206.8	2.4	placed	HSA1	146.6
5	TXNIP	210.06	2.06	frame	HSA1	144.15
5	BCL9	224.44	2.44	frame	HSA1	145.48
5	5STS01	235.98	4.16	frame		
5	CTSK	256.88	4.35	frame	HSA1	149.04
5	LASS2	264.28	2.65	placed	HSA1	149.20
5	APH1A	267.86	4.35	frame	HSA1	148.50
5	TDRKH	281.81	4.41	frame	HSA1	150.01
5	UMNe481	291.37	4.41	frame	HSA1	149.4
5	TKY847	308.82	4.52	frame		
5	UMNe477	---	[ATP1A2 - CASQ1]	binned		
5	TKY521	---	[ATP1A2 - CASQ1]	binned		
5	AHT050	---	[TPM3 - TKY489]	binned		
5	JTB	---	[KIAA0907 - S100A9]	binned	HSA1	152.21
5	C1orf43	---	[KIAA0907 - S100A9]	binned	HSA1	152.45
5	GJA5	---	[PRKAB2 - BCL9]	binned	HSA1	145.70
5	UMNe555	---	[CTSK - TDRKH]	binned		
5	TKY1078	---	[PRKAB2 - BCL9]	binned	HSA1	146
5	5STS02	0	3.72	frame		
5	GDAP2	14.03	3.72	frame	HSA1	118.21
5	CD2	28.93	3.78	frame	HSA1	117.10
5	UMNe515	41.06	3.78	frame	HSA1	116.4
5	BCAS2	74.39	2.27	frame	HSA1	114.91
5	AMPD1	93.57	2.27	frame	HSA1	115.02
5	TSHB	96.57	2.38	placed	HSA1	115.37
5	UMNe255	102.73	2.46	placed		
5	NGFB	109.12	0.13	placed	HSA1	115.63
5	COR023	112.3	4.25	frame		
5	CASQ2	129.62	4.25	frame	HSA1	116.04
5	WNT2B	168.92	6.38	frame	HSA1	112.81
5	SLC16A1	188.9	4.17	frame	HSA1	113.26
5	UCDEQ304	192.25	2.55	placed		
5	OVGP1	198.92	4.17	frame	HSA1	111.76
5	HMS05	212.73	6.76	frame	HSA1	111.1
5	TKY331	212.73	6.76	frame_identical	HSA1	110.9
5	GSTM3	226.55	6.77	frame	HSA1	110.08
5	TKY616	226.55	6.77	frame_identical		
5	TKY334	226.55	6.77	frame_identical	HSA1	110.2

5	CELSR2	237.21	5.38	frame	HSA1	109.59
5	TKY544	245.1	0.39	placed	HSA1	108.9
5	HIAT1	249.06	5.38	frame	HSA1	100.28
5	HTG15	261.78	0.4	placed	HSA1	108.1
5	TKY774	286.49	2.12	placed		
5	TKY1117	295.97	4.43	frame		
5	UMNe190	318.56	4.18	frame		
5	LEX069	329.98	4.18	frame		
5	LRRC39	346.47	5.77	frame	HSA1	100.39
5	AGL	346.47	5.77	frame_identical	HSA1	100.09
5	VCAM1	350.75	2.51	placed	HSA1	100.96
5	TKY739	360.18	4.94	frame		
5	GNAI3	390.32	4.22	frame	HSA1	109.89
5	UMNe383	---	[WNT2B - OVGP1]	binned		
5	ADORA3	---	[SLC16A1 - HMS05]	binned	HSA1	111.83
5	UMNe361	---	[OVGP1 - GSTM3]	binned	HSA1	110.9
5	TKY673	---	[GDAP2 - UMNe515]	binned	HSA1	117
5	UMNe306	---	[5STS02 - CD2]	binned		
5	EDG1	---	[LEX069 - TKY739]	binned	HSA1	101.48
5	UMNe582	---	[TKY1117 - LRRC39]	binned		
5	LEX034	0	0.34	placed	HSA1	88.1
5	GBP1	12.26	4.23	frame	HSA1	89.29
5	GTF2B	12.26	4.23	frame_identical	HSA1	89.09
5	GBP2	17.65	0.36	placed	HSA1	89.35
5	CDC7	33.75	4.23	frame	HSA1	91.74
5	UMNe536	62.54	4.88	frame		
5	CLCA1	105.91	4.33	frame	HSA1	86.71
5	SH3GLB1	105.91	4.33	frame_identical	HSA1	86.94
5	CYR61	115.04	3.51	placed	HSA1	85.82
5	ASB10	124.33	3.67	placed	HSA1	85.7
5	BXDC5	142.9	4.02	frame	HSA1	84.72
5	TKY389	181.4	4.48	frame		
5	LPHN2	198.07	4.48	frame	HSA1	82.04
5	TKY525	210.06	4.48	frame		
5	TKY911	213.9	2.56	placed		
5	FUBP1	225.89	1.67	frame	HSA1	78.10
5	ZZZ3	237.43	1.67	frame	HSA1	77.80
5	PIGK	237.43	1.67	frame_identical	HSA1	77.33
5	ACADM	241.13	2.46	placed	HSA1	75.96
5	LEX014	244.86	2.46	placed	HSA1	73.3
5	UMNe455	264.98	4.36	frame		
5	ZRANB2	290.01	5.6	frame	HSA1	71.30
5	DEPDC1	307.43	6.84	frame	HSA1	68.71
5	MIER1	337.82	5.89	frame	HSA1	67.16
5	PDE4B	346.58	2.27	placed	HSA1	66.03

5	LEPR	350.75	5.89	frame	HSA1	65.66
5	5STS03	354.91	0.37	placed		
5	USP1	391.52	5.94	frame	HSA1	62.67
5	UMNe237	391.52	5.94	frame_identical		
5	PGM1	391.52	5.94	frame_identical	HSA1	63.83
5	AHT107	391.52	5.94	frame_identical		
5	ZuBeEq2	---	[UMNe536 - BXDC5]	binned	HSA1	86.8
5	TKY801	---	[FUBP1 - UMNe455]	binned	HSA1	76.3
5	UMNe534	---	[GBP1 - UMNe536]	binned		

Horse Chr.	Marker	Map Position (cR)	Placement LOD	Assignment	Human Chr.	Human Mb (Build 36.1)
6	MAP2	0	1.49	frame	HSA2	210.15
6	MYL1	10.43	1.49	frame	HSA2	210.86
6	CPS1	14.04	0.14	placed	HSA2	211.13
6	ERBB4	32.89	2.34	frame	HSA2	211.95
6	HTG31	62.04	0.54	placed		
6	COR019	68.58	1.99	frame	HSA2	214.4
6	UMNe248	75.15	1.46	placed	HSA2	215.2
6	ATIC	78.53	1.99	frame	HSA2	215.89
6	6STS01	82	2.51	placed		
6	UMNe203	96.89	2.49	placed		
6	UMNe087	96.89	2.49	placed	HSA2	218.8
6	TKY543	96.89	1.18	placed	HSA2	216.9
6	SMARCA1	100.36	4.53	frame	HSA2	216.99
6	RNF25	107.3	2.73	placed	HSA2	219.24
6	PLCD4	107.3	2.73	placed	HSA2	219.18
6	PRKAG3	114.46	3.94	frame	HSA2	219.40
6	IHH	121.87	2.42	placed	HSA2	219.63
6	ATG9A	125.71	3.94	frame	HSA2	219.79
6	DES	125.71	3.94	frame_identical	HSA2	219.99
6	INHA	129.7	2.33	placed	HSA2	220.15
6	PAX3	151.56	4.3	frame	HSA2	222.77
6	SCG2	176.71	3.93	frame	HSA2	224.17
6	UMNe337	188.26	3.93	frame		
6	CUL3	188.26	3.93	frame_identical	HSA2	225.04
6	COR010	204.29	2.44	placed	HSA2	226.9
6	IRS1	207.99	4.19	frame	HSA2	227.31
6	COL4A4	207.99	4.19	frame_identical	HSA2	227.58
6	NVHEQ082	207.99	4.19	frame_identical	HSA2	227.9
6	UMNe197	219.54	3.89	frame	HSA2	228.5
6	ARL4C	231.55	3.89	frame	HSA2	235.07
6	TKY312	239.54	4.48	placed		
6	CAB39	271.29	2.39	placed	HSA2	231.29
6	NCL	296.33	9.08	frame	HSA2	232.03
6	CHRNA	323.52	5.21	frame	HSA2	233.11

6	UMNe233	327.1	2.24	placed		
6	LEX065	334.26	2.28	placed		
6	UGT1A1	337.86	5.16	frame	HSA2	234.33
6	TKY1090	364.3	5.16	frame		
6	TKY1001	---	[ATG9A - SCG2]	binned	HSA2	223.5
6	UMNe177	---	[ATG9A - SCG2]	binned		
6	UMNe195	---	[PRKAG3 - PAX3]	binned		
6	TKY723	---	[COR019 - SMARCAL1]	binned		
6	FN1	---	[COR019 - SMARCAL1]	binned	HSA2	215.93
6	TKY556	---	[NCL - UGT1A1]	binned	HSA2	233.1
6	HDAC4	0	3.69	frame	HSA2	239.64
6	NDUFA10	10.58	3.69	frame	HSA2	240.55
6	PPP1R7	31.74	1.6	placed	HSA2	241.74
6	HDLBP	34.08	3.69	frame	HSA2	241.82
6	TKY1087	0	6.77	frame	HSA12	2.4
6	TKY2815	20.2	0.22	placed	HSA12	2.1
6	ADIPOR2	29.45	5.35	frame	HSA12	1.67
6	NINJ2	38.71	5.35	frame	HSA12	0.54
6	FKBP4	44.87	4.4	placed	HSA12	2.77
6	ATP6V1E1	65.06	0.59	placed	HSA22	16.45
6	PARP11	117.58	6.9	frame	HSA12	3.79
6	CCND2	117.58	6.9	frame_identical	HSA12	4.25
6	TKY744	125.84	3.96	placed	HSA12	5.7
6	TKY411	125.84	3.96	placed		
6	TKY1892	129.8	4.45	placed	HSA12	5.5
6	VWF	137.44	6.9	frame	HSA12	5.93
6	UMNe472	157.31	0.82	frame		
6	TPI1	175.37	0.82	frame	HSA12	6.85
6	TKY1745	194.36	1.06	placed	HSA12	9.1
6	TKY030	207.31	2.32	placed		
6	M6PR	211.62	3.33	frame	HSA12	8.98
6	GNB3	211.62	3.33	frame_identical	HSA12	6.82
6	TKY377	211.62	3.33	frame_identical	HSA12	8.9
6	GABARAPL1	220.67	2.63	placed	HSA12	10.26
6	KLRA1	225.19	4.37	frame	HSA12	10.63
6	RERG	238.75	6.49	frame	HSA12	15.15
6	ATF7IP	238.75	6.49	frame_identical	HSA12	14.41
6	TKY360	242.74	1.26	placed	HSA12	14.7
6	TKY3278	250.71	3.96	placed	HSA12	15.9
6	TKY3193	258.63	4.39	frame	HSA12	16.2
6	TKY111	275.17	2.21	frame		
6	TKY1433	283.8	0.34	placed	HSA12	18.5
6	CMAS	288.31	0.13	placed	HSA12	22.09
6	LDHB	292.62	2.18	frame	HSA12	21.68
6	TKY1235	317.68	1.91	frame	HSA12	25.5
6	SSPN	328.23	4.23	placed	HSA12	26.24

6	TM7SF3	342.46	1.91	frame	HSA12	27.02
6	TKY1162	359	4.29	placed	HSA12	27.6
6	PTHLH	366.94	3.99	frame	HSA12	28.00
6	CCDC91	366.94	3.99	frame_identical	HSA12	28.30
6	TKY829	386.91	4.04	frame	HSA12	20
6	C1QDC1	419.22	0.75	placed	HSA12	30.75
6	MGC50559	427.9	5.33	frame	HSA12	31.70
6	PRICKLE1	461.46	3.25	placed	HSA12	41.14
6	UCDEQ465	470.13	2.21	placed		
6	NVHEQ081	478.74	2.16	placed	HSA12	38.7
6	YAF2	482.71	5.05	frame	HSA12	40.84
6	TKY863	495.66	1.98	placed		
6	SFRS2IP	504.7	5.05	frame	HSA12	44.60
6	UMNe556	509.22	0.23	placed	HSA12	44.1
6	SLC38A2	513.74	2.38	placed	HSA12	45.04
6	TKY027	543.9	0.28	placed		
6	VDR	557.47	2.38	placed	HSA12	46.52
6	COL2A1	561.6	2.4	placed	HSA12	46.65
6	PFKM	565.56	2.05	frame	HSA12	46.80
6	COR070	565.56	2.05	frame_identical	HSA12	46.8
6	CCNT1	569.52	0.28	placed	HSA12	47.37
6	TKY570	569.52	0.28	placed	HSA12	47.6
6	LIMA1	577.79	2.05	frame	HSA12	48.86
6	SCN8A	590.73	4.39	placed	HSA12	50.27
6	TKY323	595.05	2.16	placed	HSA12	50.7
6	PRR13	599.57	2.97	frame	HSA12	52.12
6	IGFBP6	599.57	2.97	frame_identical	HSA12	51.78
6	EIF4B	599.57	2.97	frame_identical	HSA12	51.69
6	TKY1474	599.57	2.97	frame_identical	HSA12	53.6
6	TKY412	604.09	2.16	placed		
6	TKY1013	621.37	2.97	frame	HSA12	52.7
6	COR088	---	[TKY1087 - NINJ2]	binned		
6	KRAS	---	[LDHB - TM7SF3]	binned	HSA12	25.25
6	UM015	---	[VWF - TPI1]	binned	HSA12	7.1
6	DDX47	---	[M6PR - RERG]	binned	HSA12	12.86
6	CLEC2B	---	[TPI1 - KLRA1]	binned	HSA12	9.90
6	TKY1113	---	[LIMA1 - TKY1013]	binned	HSA12	51.6
6	RKJ06	---	[LIMA1 - TKY1013]	binned		
6	ATP5G2	---	[LIMA1 - TKY1013]	binned	HSA12	52.35
6	TKY025	---	[SFRS2IP - LIMA1]	binned		
6	TKY026	---	[SFRS2IP - LIMA1]	binned		
6	TKY028	---	[SFRS2IP - LIMA1]	binned		

6	TKY029	---	[SFRS2IP - LIMA1]	binned		
6	PRKAG1	---	[SFRS2IP - LIMA1]	binned	HSA12	47.68
6	TKY2582	---	[YAF2 - PFKM]	binned	HSA12	43.2
6	UMNe427	---	[MGC50559 - SFRS2IP]	binned	HSA12	40.3
6	DNAJC14	0	3.76	frame	HSA12	54.50
6	ORMDL2	20.87	2.2	placed	HSA12	54.55
6	CD63	20.87	2.2	placed	HSA12	54.41
6	MYL6	26.11	3.76	frame	HSA12	54.84
6	SILV	26.11	3.76	frame_identical	HSA12	54.63
6	CDK2	26.11	3.76	frame_identical	HSA12	54.65
6	TKY284	26.11	3.76	frame_identical	HSA12	54.7
6	TMEM4	31.06	2.25	placed	HSA12	54.99
6	COQ10A	31.06	2.25	placed	HSA12	54.95
6	PTGES3	31.06	2.25	placed	HSA12	55.34
6	ATP5B	31.06	2.25	placed	HSA12	55.32
6	UMNe216	31.06	2.25	placed		
6	STAC3	35.76	2.59	placed	HSA12	55.92
6	STAT6	35.76	2.59	placed	HSA12	55.78
6	TKY595	35.76	2.59	placed	HSA12	55.8
6	LRIG3	44.68	4.06	frame	HSA12	57.55
6	USP15	62.48	4.06	frame	HSA12	60.94
6	TKY952	71	2.35	placed		
6	GNS	79.92	1.97	placed	HSA12	63.39
6	WIF1	84.61	5.26	frame	HSA12	63.73
6	LEMD3	84.61	5.26	frame_identical	HSA12	63.85
6	TKY843	126.12	4.6	frame		
6	IFNG	131.1	2.08	placed	HSA12	66.83
6	6CA001	135.82	2.71	placed	HSA12	67
6	RAP1B	140.28	2.19	placed	HSA12	67.29
6	NUP107	144.54	4.22	frame	HSA12	67.37
6	TKY1159	153.05	3.82	placed		
6	TSPAN8	169.34	4.22	frame	HSA12	69.81
6	MMP19	---	[p-terminal - MYL6]	binned	HSA12	54.52
6	DGKA	---	[DNAJC14 - LRIG3]	binned	HSA12	54.61
6	DCTN2	---	[MYL6 - USP15]	binned	HSA12	56.21
6	TKY1613	---	[MYL6 - USP15]	binned		

Horse Chr.	Marker	Map Position (cR)	Placement LOD	Assignment	Human Chr.	Human Mb (Build 36.1)
7	POLR2E	0	2.35	frame	HSA19	1.04
7	RPS15	10.69	0.29	placed	HSA19	1.39

7	TKY638	10.69	0.29	placed		
7	POLRMT	14.05	2.35	frame	HSA19	0.57
7	C19orf19	24.46	0.37	placed	HSA19	0.41
7	TKY1097	60.45	4.09	frame		
7	COR106	73.86	2.29	frame		
7	TKY1929	80.17	0.43	placed	HSA19	4.7
7	UHRF1	80.17	0.41	placed	HSA19	4.86
7	DPP9	89.95	2.29	frame	HSA19	4.63
7	TRIP10	117.81	1.5	placed	HSA19	6.69
7	C3	128.15	2.12	placed	HSA19	6.63
7	INSR	131.59	5.24	frame	HSA19	7.07
7	UMNe333	138.48	0.14	placed		
7	TKY931	170.97	1.13	placed		
7	TKY588	223.78	5.98	frame	HSA19	7.7
7	TKY1029	290.54	2.14	frame	HSA11	98.4
7	TKY1007	317.32	2.14	frame		
7	TKY724	337.34	2.83	frame		
7	HTG20	361.12	0.13	placed		
7	BIRC3	365.08	1.88	frame	HSA11	101.69
7	BIRC2	365.08	1.88	frame_identical	HSA11	101.72
7	DCUN1D5	369.21	0.67	placed	HSA11	102.44
7	TKY506	377.84	1.88	frame	HSA11	106.3
7	RDX	400.46	5.11	frame	HSA11	109.61
7	ZuBeEq11	418.55	5.11	frame		
7	7CA001	466.71	2.33	frame		
7	HTR3A	498.68	0.18	placed	HSA11	113.35
7	NCAM1	503.99	2.33	frame	HSA11	112.34
7	TKY012	509.31	2.35	placed	HSA11	112.6
7	DRD2	509.31	2.35	placed	HSA11	112.79
7	TKY035	519.94	3.57	frame	HSA11	113.4
7	TKY034	519.94	3.57	frame_identical		
7	APOA4	556.54	1.13	frame	HSA11	116.20
7	APOC3	567.87	0.85	placed	HSA11	116.21
7	POU2F3	573.54	0.94	frame	HSA11	119.62
7	LEX015/038	573.54	0.94	frame_identical	HSA11	120.8
7	TKY461	591.77	0.94	frame		
7	TKY348	624.93	2.01	frame	HSA11	115.5
7	TKY946	624.93	2.01	frame_identical		
7	TKY703	636.28	2.44	placed	HSA11	114.4
7	UMNe356	663.06	2.12	placed		
7	CADM1	667.37	2.55	frame	HSA11	114.55
7	TKY1518	675.63	2.67	placed	HSA11	126
7	ETS1	683.56	2.55	frame	HSA11	127.83
7	TKY1062	683.56	2.55	frame_identical		
7	TKY957	---	[TKY506 - ZuBeEq11]	binned	HSA11	109.6
7	TKY1107	---	[TKY1007 - BIRC3]	binned	HSA11	100.2
7	TKY618	---	[DPP9 - TKY588]	binned		
7	TKY2366	---	[TKY1097 -	binned	HSA19	3.2

			DPP9]			
7	LONP1	---	[DPP9 -	binned	HSA19	5.64
			TKY588]			
7	HESTG07	---	[APOA4 -	binned	HSA11	116.5
			TKY461]			
7	THY1	---	[APOA4 -	binned	HSA11	118.79
			TKY461]			
7	TKY005	0	0	frame		
7	TKY283	2.73	1.07	placed		
7	VHL108	11.33	1.5	placed		
7	UMNe425	34.03	0	frame		
7	TKY476	0	2.49	frame		
7	TKY858	18.68	2.2	placed		
7	HTG33	18.68	2.2	placed		
7	NFIX	30.27	2.53	frame	HSA19	12.97
7	TKY574	70.85	4.28	frame		
7	TKY1112	93.81	3.84	frame		
7	ACP5	107.58	3.84	frame	HSA19	11.55
7	PDE4A	133.11	5.31	frame	HSA19	10.42
7	OLFM2	142.4	4.1	placed	HSA19	9.83
7	TKY272	146.64	4.47	placed		
7	COR004	159.2	3.8	frame		
7	LEX045	166.92	0.23	placed		
7	UMNe093	170.53	1.01	frame		
7	UMNe359	188.85	1.01	frame		
7	TKY512	235.81	1.78	frame	HSA11	92
7	COR095	243.53	1.09	placed	HSA11	92.1
7	TKY822	251.56	1.78	frame	HSA11	91.7
7	UMNe565	280.55	3.84	frame		
7	UMNe606	294.33	3.84	frame		
7	7STS02	316.22	4.24	frame		
7	TKY927	0	1.46	placed	HSA11	81.9
7	UMNe459	3.92	3.22	frame		
7	TKY338	29.75	2.26	placed	HSA11	79.3
7	TKY757	37.56	4.21	frame	HSA11	78.8
7	THRSP	52.16	6.1	frame	HSA11	77.45
7	7STS01	66.3	6.19	frame		
7	TKY282	77.62	0.12	placed		
7	UCP2	101.3	6.19	frame	HSA11	73.36
7	UCP3	101.3	6.19	frame_identical	HSA11	73.39
7	TKY690	114.62	2.34	placed	HSA11	71.8
7	CLPB	114.62	2.34	placed	HSA11	71.68
7	SGCV28	114.62	2.34	placed	HSA11	71.9
7	IL18BP	120.6	3.7	frame	HSA11	71.39
7	NUP98	129.59	3.7	frame	HSA11	3.65
7	TPP1	155.43	1.92	frame	HSA11	6.59
7	TKY986	176.75	1.92	frame		
7	TUB	200.44	1.95	frame	HSA11	8.02
7	HBB	220.55	2.24	placed	HSA11	5.20
7	UMNe574	236.38	2.17	frame		
7	UMNe074	242.5	0.67	placed		

7	UMNe100	248.77	2.53	frame	HSA11	9.7
7	CTR9	258.58	4.8	frame	HSA11	10.73
7	TKY1058	268.66	3.07	frame		
7	PTH	283.36	3.07	frame	HSA11	13.47
7	TKY884	---	[TKY986 - UMNe574]	binned		
7	TKY2165	---	[TKY986 - UMNe574]	binned	HSA11	8.2
7	XLKD1	---	[UMNe100 - TKY1058]	binned	HSA11	10.54
7	TKY624	---	[TUB - UMNe100]	binned	HSA11	5.6
7	SOX6	0	2.78	frame	HSA11	15.95
7	LDHA	4.79	0.8	placed	HSA11	18.37
7	UEVLD	9.89	1.72	placed	HSA11	18.5
7	TKY839	15.29	2.38	placed		
7	ABCC8	27.5	2.36	placed	HSA11	17.37
7	AHT019	27.5	2.38	placed		
7	BDNF	33.24	1.91	frame	HSA11	27.63
7	TKY380	38.98	0.57	placed	HSA11	25.6
7	TKY1294	49.71	1.91	frame	HSA11	22.4
7	TKY613	49.71	1.91	frame_identical	HSA11	22.5
7	TKY1177	76.34	3.95	frame		
7	TKY1147	81.42	0.23	placed		
7	TKY3464	91.54	3.54	frame	HSA11	30.7
7	PAX6	113.13	3.54	frame	HSA11	31.77
7	TKY2512	---	[SOX6 - TKY1294]	binned	HSA11	20.1

Horse Chr.	Marker	Map Position (cR)	Placement LOD	Assignment	Human Chr.	Human Mb (Build 36.1)
8	XBP1	0	3.04	frame	HSA22	27.52
8	ASCC2	16.63	3.04	frame	HSA22	28.51
8	TKY985	30.24	2.38	placed		
8	PES1	40.3	4.05	frame	HSA22	29.30
8	TKY904	40.3	4.05	frame_identical		
8	UBE2L3	83.98	3.2	frame	HSA22	20.25
8	COMT	119.52	8.02	frame	HSA22	18.31
8	AHT005	126.83	4.06	placed		
8	DGCR14	133.87	6.31	placed	HSA22	17.50
8	SCARF2	140.84	6.62	frame	HSA22	19.11
8	BCR	151.31	4.78	frame	HSA22	21.85
8	ADORA2A	161.39	2.57	frame	HSA22	23.16
8	SNRPD3	175.75	1.45	placed	HSA22	23.28
8	COR097	182.89	2.57	frame	HSA22	22.7
8	AHT025	219.41	7.16	frame		
8	TKY994	275.1	0.65	frame	HSA22	24.7
8	TKY1161	293.67	0.65	frame		
8	TKY620	308.59	1.05	placed	HSA22	24.9
8	GIT2	315.78	2.06	placed	HSA12	108.85

8	UBE3B	315.78	2.11	placed	HSA12	108.40
8	SART3	319.34	2.11	placed	HSA12	107.44
8	RNF10	326.48	5.66	frame	HSA12	119.46
8	GCN1L1	344.45	2.35	frame	HSA12	119.05
8	UMNe070	357.93	0.67	frame	HSA12	118.4
8	PRKAB1	370.68	0.67	frame	HSA12	118.59
8	TKY458	416.35	1.86	frame	HSA12	116.2
8	WSB2	445.64	1.86	frame	HSA12	116.95
8	UMNe532	---	[TKY458 - q-terminal]	binned	HSA12	117
8	THRAP2	0	0.85	frame	HSA12	114.88
8	TKY436	13.86	0.74	placed	HSA12	113.5
8	UCDEQ046	27.76	0.85	frame		
8	TBX5	42.39	0.85	frame	HSA12	113.28
8	UM034	46.81	0.87	placed		
8	AHT131	51.03	1.64	placed		
8	TPCN1	59.89	0.92	placed	HSA12	112.14
8	AHT130	---	[THRAP2 - TBX5]	binned		
8	ATXN2	0	3.78	frame	HSA12	110.37
8	ATP2A2	11.61	3.78	frame	HSA12	109.20
8	PSMD9	23.23	6.36	frame	HSA12	120.81
8	VPS33A	23.23	6.36	frame_identical	HSA12	121.28
8	RSRC2	45.49	3.75	frame	HSA12	121.56
8	TKY470	73.57	1.45	frame		
8	SCARB1	85.18	1.45	frame	HSA12	123.83
8	SBNO1	92.38	2.44	placed	HSA12	122.35
8	TKY669	107.9	3.25	frame	HSA12	124.4
8	UMNe385	133.35	3.77	frame	HSA12	125.9
8	SLC15A4	155.33	3.77	frame	HSA12	127.84
8	LEX023	155.33	3.77	frame_identical		
8	UMNe579	187.86	3.92	frame		
8	LEX029	224.6	2.44	placed		
8	PIWIL1	227.88	3.35	frame	HSA12	129.39
8	SFRS8	258.45	3.35	frame	HSA12	130.76
8	TKY1157	---	[UMNe579 - SFRS8]	binned	HSA12	129.2
8	EPB41L3	0	3.62	frame	HSA18	5.38
8	TKY1045	0	3.62	frame_identical	HSA18	5.4
8	PTPRM	41.52	1.8	frame	HSA18	7.56
8	NDUFV2	47.84	1.44	placed	HSA18	9.09
8	VAPA	70.93	1.8	frame	HSA18	9.90
8	UMNe545	78.28	0.19	placed	HSA18	10.2
8	FAM38B	88.96	4.04	frame	HSA18	10.66
8	VHL073	100.4	4.04	frame		
8	MPPE1	115.68	5.74	frame	HSA18	11.87
8	UMNe578	115.68	5.74	frame_identical	HSA18	11.7
8	RBBP8	122.79	4.32	placed	HSA18	18.77
8	TKY653	122.79	4.32	placed	HSA18	18.6

8	ROCK1	141.28	5.76	frame	HSA18	16.79
8	ASB14	141.28	5.76	frame_identical		
8	TYMS	141.28	5.76	frame_identical	HSA18	0.65
8	LPIN2	147.95	1.86	placed	HSA18	2.91
8	TKY391	158	2.88	frame	HSA18	3.4
8	TKY1056	174.47	2.88	frame		
8	UMNe238	190.93	0.85	placed	HSA18	4.3
8	LAMA1	213.18	1.91	placed	HSA18	6.93
8	AHT003	216.73	2.56	frame		
8	COR012	235.21	2.56	frame	HSA18	20.5
8	TKY813	258.26	3.69	frame	HSA18	22.6
8	CDH2	276.75	3.69	frame	HSA18	23.78
8	DSC2	305.63	6.71	frame	HSA18	26.90
8	UMNe164	332.59	3.31	frame		
8	TKY955	363.01	0.17	placed		
8	MOCOS	366.95	2.76	frame	HSA18	32.02
8	GALNT1	366.95	2.76	frame_identical	HSA18	31.49
8	SGCV32	383.47	1.41	frame		
8	UMNe479	391.08	1.71	placed	HSA18	33.6
8	TKY509	402.96	1.41	frame	HSA18	33.4
8	TKY2159	---	[CDH2 - UMNe164]	binned	HSA18	27.2
8	UMNe211	---	[p-terminal - PTPRM]	binned		
8	SMAD2	0	2.81	frame	HSA18	43.62
8	ACAA2	21.43	1.96	frame	HSA18	45.56
8	TKY573	21.43	1.96	frame_identical	HSA18	44.1
8	IER3IP1	29.99	2.61	placed	HSA18	42.94
8	COR003	43.43	0.11	placed		
8	CCDC5	47.7	1.96	frame	HSA18	41.94
8	ME2	61.15	2.14	frame	HSA18	46.66
8	TKY3255	69.34	3.81	placed	HSA18	47.5
8	MBD2	77.53	6.14	frame	HSA18	49.93
8	TKY961	98.54	1.89	placed		
8	NARS	119.41	2.09	placed	HSA18	53.42
8	UM033	119.41	2.09	placed		
8	ALPK2	123.34	5.95	frame	HSA18	54.30
8	TKY3280	131.26	2.2	placed	HSA18	57.3
8	COR056	147.76	1.89	frame		
8	8STS01	160.06	2.23	frame		
8	SERPINB2	171.88	4.5	frame	HSA18	59.71
8	TKY468	182.86	3.81	frame	HSA18	63.8
8	CNDP2	205.72	4.25	frame	HSA18	70.31
8	CYB5A	209.25	1.97	placed	HSA18	70.07
8	TKY901	212.9	1.95	placed		
8	TKY894	236.76	2.18	placed	HSA18	75.7
8	ATP9B	240.18	1.14	frame	HSA18	74.93
8	GALR1	254.85	1.14	frame	HSA18	73.09
8	TKY932	258.63	1.51	placed	HSA18	72.8

8	TKY513	270.93	2.9	placed		
8	UMNe526	---	[ATP9B - q-terminal]	binned		
8	TKY923	---	[SMAD2 - CCDC5]	binned		
8	TKY409	---	[CCDC5 - MBD2]	binned		
8	TKY1051	---	[CCDC5 - MBD2]	binned		
8	TKY362	---	[ACAA2 - ME2]	binned	HSA18	42.1
8	TKY359	---	[ACAA2 - ME2]	binned	HSA18	40.8
8	8CA001	---	[MBD2 - COR056]	binned	HSA18	57.3

Horse Chr.	Marker	Map Position (cR)	Placement LOD	Assignment	Human Chr.	Human Mb (Build 36.1)
9	UMNe322	0	1.66	frame		
9	HTG04	6.24	1.61	placed		
9	UMNe518	12.32	1.66	frame		
9	ATP6V0D2	28.11	2.71	frame	HSA8	87.18
9	CA3	43.94	3.16	frame	HSA8	86.54
9	TKY939	89.88	2	frame	HSA8	80.1
9	TKY2231	101.5	2	frame	HSA8	80.1
9	UMNe438	108.48	0.16	placed		
9	FABP5	115.24	0.16	placed	HSA8	82.36
9	FABP4	118.52	1.63	frame	HSA8	82.55
9	PKIA	133.01	3.92	frame	HSA8	79.59
9	CRISPLD1	152.5	5.57	frame	HSA8	76.06
9	GDAP1	172	5.57	frame	HSA8	75.43
9	AHT104	179.25	2.4	placed		
9	RPL7	189.75	5.75	frame	HSA8	74.3
9	TKY714	199.44	0.39	placed		
9	TKY2519	217.17	5.75	frame	HSA8	73.7
9	TKY2459	220.68	1.42	placed	HSA8	74
9	TRAM1	243.33	6.28	frame	HSA8	71.65
9	TKY2874	246.72	3.83	placed	HSA8	71.4
9	TKY457	253.71	3.58	frame	HSA8	69.9
9	HMS03	264.91	4.61	frame	HSA8	69.7
9	COPS5	277.5	3.56	frame	HSA8	68.12
9	VHL126	294.44	1.12	frame		
9	COR008	310.09	1.12	frame	HSA8	67.4
9	TKY529	317.33	2.7	placed	HSA8	64.6
9	TKY878	324.79	2.43	placed		
9	TKY895	336.86	0.31	placed		
9	GGH	344.64	2.44	frame	HSA8	64.09
9	TKY533	355.93	2.46	frame		
9	COR013	366.91	0.83	placed	HSA8	62.3
9	CHD7	370.33	2.89	frame	HSA8	61.75

9	TKY2223	373.7	0.43	placed	HSA8	62.5
9	NSMAF	408.03	4.12	frame	HSA8	59.66
9	TKY1010	420.91	0.38	placed		
9	CHCHD7	437.54	1.12	placed	HSA8	57.29
9	PENK	440.65	4.12	frame	HSA8	57.52
9	RPS20	446.59	2.03	placed	HSA8	57.15
9	TKY291	461.62	5.79	frame	HSA8	54.3
9	LEX070	467.2	0.14	placed		
9	HTG08	475.8	2.27	placed	HSA8	54.3
9	TKY879	491.32	5.31	frame	HSA8	53.4
9	SNAI2	519.68	3.56	frame	HSA8	49.99
9	PRKDC	539.09	0.29	placed	HSA8	48.85
9	MCM4	549.21	3.56	frame	HSA8	49.04
9	TKY676	---	[UMNe518 - CA3]	binned		
9	UMNe540	---	[SNAI2 - q-terminal]	binned		
9	TKY627	---	[VHL126 - GGH]	binned	HSA8	65.6
9	AHT096	---	[CRISPLD1 - RPL7]	binned	HSA8	75.5
9	NBN	0	1.31	frame	HSA8	91.01
9	TKY1831	10.06	1.31	frame	HSA8	91.8
9	COR098	17.98	1.16	placed	HSA8	92.2
9	UMNe123	23.05	3.47	frame	HSA8	92.3
9	UMNe204	33.18	0.11	placed		
9	PPM2C	68.19	7.25	frame	HSA8	95.00
9	UMNe496	123	2.81	placed		
9	COR093	168.12	8.47	frame		
9	UMNe580	191.61	0.75	placed		
9	UQCRB	197.16	6.35	frame	HSA8	97.31
9	UM037	199.87	1.14	placed	HSA8	97.1
9	TKY699	210.63	0.22	placed		
9	UMNe155	230.42	4.74	placed	HSA8	99.1
9	MTDH	236.04	3.02	frame	HSA8	98.73
9	TKY465	248.41	3.02	frame	HSA8	99
9	RNF19	275.6	2.71	frame	HSA8	101.34
9	UMNe103	284.48	2.55	placed		
9	ANKRD46	287.31	2.46	frame	HSA8	101.60
9	TKY453	296.42	1.48	frame	HSA8	101
9	ZNF706	312.78	1.73	frame	HSA8	102.28
9	9STS01	321.92	1.73	frame		
9	UMNe393	368.32	5.5	frame		
9	KLF10	405.45	1.09	placed	HSA8	103.73
9	TKY2750	405.45	1.09	placed	HSA8	104.3
9	TKY1138	429.39	1.02	frame		
9	ATP6V1C1	445.13	1.02	frame	HSA8	104.10
9	AZIN1	473.11	1.33	frame	HSA8	103.91
9	UMNe342	513.39	3.34	frame	HSA8	106.8
9	ABRA	523.99	1.26	frame	HSA8	107.84
9	TKY805	535.01	1.02	frame	HSA8	108.2

9	UMNe577	545.75	1.02	frame	HSA8	108.2
9	EIF3S6	556.42	3.44	placed	HSA8	109.28
9	TRHR	559.98	7.84	frame	HSA8	110.17
9	RAD21	583.76	4.05	frame	HSA8	117.93
9	NOV	587.39	2.41	placed	HSA8	120.50
9	EXT1	594.66	2.35	frame	HSA8	118.88
9	TKY2751	605.33	2.35	frame	HSA8	121.7
9	TKY293	616.36	0.22	placed	HSA8	114.4
9	MYC	632.09	3.73	frame	HSA8	128.82
9	KIAA0196	639.62	2.05	placed	HSA8	126.11
9	UMNe507	647.15	4.28	placed	HSA8	128.6
9	TKY505	658.56	1.07	placed	HSA8	131.8
9	ASB05	665.84	6.31	frame	HSA8	131.5
9	UMNe212	676.44	2.49	placed	HSA8	133.5
9	TG	679.85	4.54	frame	HSA8	133.95
9	VHL219	690.19	4.54	frame		
9	LEX019	707.54	2.09	placed		
9	TKY540	724.88	4.24	frame		
9	CHRA1	738.64	4.24	frame	HSA8	141.59
9	LY6H	752.09	6.49	frame	HSA8	144.31
9	SCRIB	765.93	3.29	frame	HSA8	144.95
9	LRRC14	776.6	1.52	placed	HSA8	145.71
9	RPL8	783.7	3.29	frame	HSA8	145.99
9	TKY916	805.73	5.04	placed	HSA8	114.9
9	AHT053	---	[ABRA - TRHR]	binned		
9	TKY1884	---	[AZIN1 - ABRA]	binned	HSA8	106.8
9	NUDCD1	---	[UMNe577 - RAD21]	binned	HSA8	110.32
9	ASB21	---	[VHL219 - CHRA1]	binned	HSA8	139.4
9	UMNe189	---	[TKY2751 - ASB05]	binned		
9	UMNe493	---	[TRHR - EXT1]	binned	HSA8	123.4
9	TKY452	---	[TRHR - MYC]	binned		

Horse Chr.	Marker	Map Position (cR)	Placement LOD	Assignment	Human Chr.	Human Mb (Build 36.1)
10	AHT049	0	2.48	frame	HSA19	33.3
10	POP4	6.82	3.41	placed	HSA19	34.79
10	TKY1765	17.12	0.11	placed	HSA19	35.4
10	C19orf2	20.54	2.48	frame	HSA19	35.13
10	ZNF536	28.08	2.68	placed	HSA19	35.56
10	HMS23	31.84	4.69	frame	HSA19	36.3
10	TKY580	39.37	2.59	placed		
10	PDCD5	43.28	3.46	frame	HSA19	37.76

10	NUDT19	63.05	1.54	placed	HSA19	37.87
10	CEBPG	88	4.57	frame	HSA19	38.56
10	SLC7A10	88	4.57	frame_identical	HSA19	38.39
10	GPI	96.14	2.67	placed	HSA19	39.55
10	PSENN	104.28	2.37	frame	HSA19	40.93
10	TKY023	117.02	2.37	frame		
10	CAPNS1	130.36	4.02	frame	HSA19	41.32
10	TKY855	166.36	0.26	placed		
10	UMNe506	184.25	4.34	frame		
10	HKR1	189.44	2.32	placed	HSA19	42.52
10	TKY601	200.5	0.25	placed	HSA19	41.7
10	COR020	216.12	2.6	placed		
10	COR045	216.12	2.59	placed		
10	MRPS12	220.81	4.34	frame	HSA19	44.11
10	TKY365	234.81	4.02	frame	HSA19	45.5
10	UCDEQ482	234.81	4.02	frame_identical		
10	BCKDHA	252.61	4.02	frame	HSA19	46.60
10	COR048	252.61	4.02	frame_identical		
10	LIPE	285.65	3.4	frame	HSA19	47.60
10	AHT015	289.74	0.15	placed		
10	POU2F2	309.44	3.4	frame	HSA19	47.28
10	ETHE1	342.82	6.16	frame	HSA19	48.70
10	ASB06	360.62	3.29	placed	HSA19	48.6
10	NVHEQ018	385.15	2.29	placed		
10	CLPTM1	388.67	2.09	frame	HSA19	50.15
10	CKM	399.23	2.09	frame	HSA19	50.50
10	RPS17ps	410.16	2.43	placed		
10	STRN4	413.92	6.06	frame	HSA19	51.91
10	KPTN	436.2	0.11	placed	HSA19	52.66
10	C5AR1	440.64	1.92	frame	HSA19	52.50
10	TKY773	440.64	1.92	frame_identical	HSA19	52.6
10	GLTSCR1	453.97	1.92	frame	HSA19	52.87
10	GYS1	466.72	2.4	placed	HSA19	54.16
10	ELSPBP1	466.72	2.4	placed	HSA19	53.19
10	FTL	470.78	4.08	frame	HSA19	54.16
10	RPL13A	487.09	3.68	frame	HSA19	54.68
10	NKG7	498.83	3.68	frame	HSA19	56.57
10	LEX008	502.6	0.36	placed		
10	TKY537	514.81	4.45	placed		
10	TKY918	546.1	0.31	placed		
10	RPL28	562.41	4.07	frame	HSA19	60.59
10	TKY1034	562.41	4.07	frame_identical		
10	COR083	566.32	0.22	placed		
10	UM028	585.94	0.26	placed		
10	LILRA5	589.34	2.82	frame	HSA19	59.51
10	SGCV20	599.34	1.8	placed		
10	MYADM	605.81	2.82	frame	HSA19	59.06
10	10STS01	636.6	3.79	frame		
10	AURKC	700.32	2.38	placed	HSA19	62.43
10	UCDEQ412	714.11	1.25	placed		

10	PEG3	717.53	5.77	frame	HSA19	62.02
10	LEX062/066	734.67	5.77	frame		
10	10STS03	750.45	0.13	placed		
10	RPS5	753.24	5.02	frame	HSA19	63.59
10	TKY460	778.72	5.02	frame		
10	SLC7A9	---	[PDCD5 - PSENEN]	binned	HSA19	38.01
10	TSHZ3	---	[C19orf2 - PDCD5]	binned	HSA19	36.46
10	TGFB1	---	[TKY365 - LIPE]	binned	HSA19	46.53
10	RPS19	---	[LIPE - ETHE1]	binned	HSA19	47.06
10	ZNF543	---	[10STS01 - LEX062/066]	binned	HSA19	62.52
10	PPP5C	---	[CKM - C5AR1]	binned	HSA19	51.54
10	TKY592	---	[STRN4 - GLTSCR1]	binned		
10	NUP62	---	[STRN4 - GLTSCR1]	binned	HSA19	55.10
10	NOSIP	---	[STRN4 - GLTSCR1]	binned	HSA19	54.75
10	SGCV30	---	[STRN4 - GLTSCR1]	binned		
10	COR015	---	[FTL - TKY1034]	binned	HSA19	55.3
10	LILRA@	---	[LILRA5 - 10STS01]	binned	HSA19	59.5
10	KIR3DL@	---	[TKY1034 - MYADM]	binned	HSA19	59.9
10	HTR1B	0	1.45	frame	HSA6	78.23
10	PHIP	10.53	2.37	placed	HSA6	79.71
10	ELOVL4	14.03	1.45	frame	HSA6	80.68
10	TKY838	17.65	0.15	placed	HSA6	79.5
10	IBTK	25.53	1.1	placed	HSA6	82.94
10	NVHEQ007	38.29	2.02	placed	HSA6	83.2
10	UMNe267	46.74	2.95	frame	HSA6	85.4
10	ME1	46.74	2.95	frame_identical	HSA6	83.98
10	CGA	64.56	2.41	placed	HSA6	87.85
10	CNR1	68.47	4.03	frame	HSA6	88.91
10	TKY2521	68.47	4.03	frame_identical	HSA6	88.8
10	PNRC1	80.17	4.03	frame	HSA6	89.85
10	TKY867	97.11	2.41	frame	HSA6	89.6
10	CASP8AP2	110.38	2.41	frame	HSA6	90.60
10	UMNe372	122.55	2.31	frame		
10	UMNe209	134.24	4.43	frame	HSA6	91
10	MAP3K7	151.18	2.19	frame	HSA6	91.28
10	CH241-101G24_T7	174.45	2.28	placed	HSA6	93.6
10	EPHA7	178.68	4.59	frame	HSA6	94.01
10	UMNe426	178.68	4.59	frame_identical	HSA6	94.3
10	CH241-101F16_T7	178.68	4.59	frame_identical	HSA6	94
10	CH241-102A14_SP6	183.08	2.23	placed	HSA6	94.8
10	MANEA	191.96	1.9	frame	HSA6	96.13

10	FHL5	195.88	1.59	placed	HSA6	97.12
10	CH241-101M4_T7	214.44	1.9	frame	HSA6	97.6
10	TKY1050	233.14	2.4	placed		
10	FBXL4	237.03	2.9	frame	HSA6	99.43
10	CH241-102D7_SP6	248.73	6.12	frame	HSA6	101.2
10	UM040	248.73	6.12	frame_identical		
10	10STS02	263.27	6.26	frame		
10	PREP	289.77	4.43	frame	HSA6	105.83
10	UMNe265	297.28	2.71	placed	HSA6	106
10	PRDM1	297.28	2.71	placed	HSA6	106.64
10	POPDC3	301.02	4.43	frame	HSA6	105.71
10	AHT126	304.64	2.73	placed		
10	AHT132	308.26	2.42	placed		
10	ASB09	312.01	4.5	frame	HSA6	105
10	UMNe543	336.46	0.55	placed		
10	NR2E1	372.14	2.03	frame	HSA6	108.59
10	TKY471	380.59	0.24	placed	HSA6	108.9
10	TKY751	380.59	0.24	placed	HSA6	108.5
10	AMD1	384.64	2.03	frame	HSA6	111.30
10	SEC63	388.71	1.05	placed	HSA6	108.30
10	SGCV17	388.71	2.43	placed	HSA6	108.2
10	TKY1995	392.63	2.37	placed	HSA6	108.2
10	CD164	400.13	3.64	frame	HSA6	109.79
10	TKY964	432.86	4.4	frame	HSA6	113
10	CH241-100J10_T7	453.2	2.4	placed	HSA6	113.3
10	FYN	465.96	0.22	placed	HSA6	112.09
10	WISP3	470.03	2	frame	HSA6	112.48
10	LEX009	482.27	2	frame	HSA6	113.1
10	HDAC2	504.72	1.02	placed	HSA6	114.37
10	CH241-100C6_SP6	513.61	5.52	frame	HSA6	114.7
10	TKY2859	526.37	2.87	placed	HSA6	114.4
10	COL10A1	549.74	1.63	frame	HSA6	116.54
10	TKY496	566.77	0.31	placed	HSA6	117.6
10	ROS1	577.36	1.63	frame	HSA6	117.72
10	MAN1A1	613.1	3.66	frame	HSA6	119.54
10	GJA1	631.94	2.4	frame	HSA6	121.80
10	CH241-101E16_T7	635.45	2.52	placed	HSA6	121.8
10	SMPDL3A	642.69	2.4	frame	HSA6	123.15
10	HSF2	642.69	2.4	frame_identical	HSA6	122.76
10	CH241-100E2_SP6	646.44	1.26	placed	HSA6	122.7
10	PKIB	657.78	2.48	frame	HSA6	122.83
10	NVHEQ067	681.29	2.52	placed		
10	HEY2	692.56	2.41	placed	HSA6	126.11
10	CH241-100D21_SP6	696.06	5.93	frame	HSA6	126.4
10	COR085	702.85	2.6	placed	HSA6	127

10	TKY503	702.85	2.6	placed	HSA6	126.6
10	RNF146	706.15	5.93	frame	HSA6	127.63
10	LAMA2	723.78	4.08	frame	HSA6	129.25
10	ARG1	733.42	4.08	frame	HSA6	131.94
10	PEX7	757.48	1.33	placed	HSA6	137.19
10	HBS1L	764.08	3.99	placed	HSA6	135.32
10	SGK	777.72	3.03	frame	HSA6	134.53
10	TKY632	794.82	0.61	placed		
10	REPS1	801.42	3.03	frame	HSA6	139.27
10	TKY2470	801.42	3.03	frame_identical	HSA6	139.1
10	AHT086	848.74	1.99	placed	HSA6	130.6
10	TKY689	---	[HTR1B - ME1]	binned	HSA6	79.4
10	PGM3	---	[ELOVL4 - CNR1]	binned	HSA6	83.94
10	CH241-100N24_SP6	---	[EPHA7 - CH241-101M4_T7]	binned	HSA6	96.1
10	TKY614	---	[FBXL4 - 10STS02]	binned		
10	CH241-101L6_SP6	---	[POPDC3 - NR2E1]	binned	HSA6	105.2
10	TKY1101	---	[PREP - ASB09]	binned	HSA6	106.6
10	TKY722	---	[CH241-100D21_SP6 - LAMA2]	binned		
10	TKY999	---	[NR2E1 - CD164]	binned	HSA6	109.9
10	CH241-102D24_SP6	---	[NR2E1 - CD164]	binned	HSA6	110.1
10	REV3L	---	[NR2E1 - CD164]	binned	HSA6	111.73

Horse Chr.	Marker	Map Position (cR)	Placement LOD	Assignment	Human Chr.	Human Mb (Build 36.1)
11	SGCV22	0	6.89	frame		
11	FASN	27.57	2.71	frame	HSA17	77.63
11	UMNe365	37.88	2.71	frame		
11	TKY551	37.88	2.71	frame_identical		
11	PDE6G	40.4	0.15	placed	HSA17	77.23
11	P4HB	45.54	3.03	frame	HSA17	77.39
11	TKY646	78.8	9.47	frame	HSA17	75
11	AHT044	140.43	2.72	frame		
11	UMNe096	149.55	1.53	placed		
11	AHT016	158.66	2.95	placed		
11	UMNe128	171.87	0.12	placed		
11	UMNe085	175.84	2.12	frame		
11	AHT128	179.82	2.83	placed		
11	VHL060	187.84	2.12	frame		
11	VHL78	234.64	0.15	placed		
11	CH241-103P20_T7	237.5	1.99	frame		
11	UMNe398	298.17	6.1	frame		
11	UMNe514	330.96	6.1	frame		

11	11STS02	387.13	0.26	placed		
11	UMNe423	395.83	5.91	frame		
11	TKY908	520.58	3.48	frame		
11	ACOX1	541.34	3.48	frame	HSA17	71.45
11	GALR2	544.14	0.18	placed	HSA17	71.58
11	CDR2L	555.61	8.03	frame	HSA17	70.50
11	TKY1312	569.14	2.47	placed	HSA17	69.5
11	UMNe314	569.14	2.47	placed		
11	UCDEQ039	571.6	5.15	frame		
11	CD300C	581.75	5.15	frame	HSA17	70.05
11	UCDEQ439	599.81	3.78	frame		
11	TKY960	628.59	3.78	frame	HSA17	68.3
11	SOX9	672.13	4.47	frame	HSA17	67.63
11	NVHEQ040	688.92	4.47	frame	HSA17	67.7
11	UMNe116	703.24	2.03	frame	HSA17	66.1
11	TKY2455	705.47	1.12	placed	HSA17	65.7
11	LEX068	728.93	2.03	frame		
11	UMNe240	775.62	6.62	frame	HSA17	64.6
11	NOL11	836.19	3.42	frame	HSA17	63.14
11	DDX5	854.11	3.42	frame	HSA17	59.93
11	PSMC5	863.89	1.26	frame	HSA17	59.26
11	ACE	868.65	0.64	placed	HSA17	58.91
11	SCN4A	873.5	1.26	frame	HSA17	59.37
11	CH241- 100B11_SP6	891.22	6.66	frame		
11	MYL4	900.69	6.66	frame	HSA17	42.64
11	TKY2446	910.31	4.25	frame	HSA17	41.2
11	NSF	922.55	4.25	frame	HSA17	41.81
11	UMNe378	962.54	1.33	frame	HSA17	38.3
11	ITGA2B	972.57	1.07	placed	HSA17	39.81
11	CH241- 101A18_SP6	977.37	1.33	frame		
11	D-8	987.5	1.18	frame		
11	SGCV24	995.4	1.16	placed	HSA17	39.2
11	TKY954	997.99	0.91	placed	HSA17	39.2
11	BRCA1	1003.04	1.18	frame	HSA17	38.45
11	AARSD1	1016.56	4.89	frame	HSA17	38.36
11	TKY2674	1036.47	6.55	frame	HSA17	37.4
11	MLX	1044.08	3.85	frame	HSA17	37.97
11	GAST	1051.28	3.85	frame	HSA17	37.12
11	CH241- 102M09_SP6	1063.39	8.38	frame		
11	AHT076	1070.54	2.52	placed	HSA17	36.1
11	UMNe259	1072.9	4.64	frame	HSA17	36.1
11	TKY978	1089.01	4.64	frame		
11	CSF3	1116.9	4.75	frame	HSA17	35.43
11	PNMT	1134.32	2.04	frame	HSA17	35.08
11	CACNB1	1141.36	2.04	frame	HSA17	34.58
11	CH241- 102B10_SP6	1155.67	4.01	frame		
11	TKY2944	1170.01	4.01	frame	HSA17	43.7

11	UMNe558	1198.13	5.42	frame	HSA17	44.9
11	TKY304	1217.62	0.67	frame	HSA17	45.6
11	COL1A1	1229.49	2.48	frame	HSA17	45.62
11	TKY988	1236.53	2.48	frame	HSA17	46
11	SGCV13	1241.18	1.31	placed	HSA17	45.9
11	TKY1028	1245.87	2.69	frame		
11	UMNe201	1280.35	8.51	frame	HSA17	48.2
11	HLF	1305.65	0.47	placed	HSA17	50.70
11	MMD	1307.97	1.26	frame	HSA17	50.82
11	TKY1004	1315.24	1.26	frame	HSA17	51.2
11	TKY490	1325.1	1.09	frame		
11	EPX	1358	4.14	frame	HSA17	53.63
11	MKS1	1370.55	4.14	frame	HSA17	53.64
11	TMEM49	1383.7	3.46	frame	HSA17	55.14
11	TKY710	1394.49	1.29	placed		
11	THRAP1	1397.07	1.06	frame	HSA17	57.38
11	TKY3518	1402.17	1.21	placed	HSA17	56.9
11	TKY3493	1412.47	1.06	frame	HSA17	56.5
11	TKY343	---	[LEX068 - NOL11]	binned		
11	TKY630	---	[CDR2L - CD300C]	binned		
11	SGCA	---	[TKY304 - TKY988]	binned	HSA17	45.60
11	TKY3288	---	[CACNB1 - TKY2944]	binned	HSA17	43.1
11	GH1	---	[PSMC5 - CH241- 100B11_SP6]	binned	HSA17	59.35
11	USP32	0	1.12	frame	HSA17	55.61
11	CA4	3.54	2.28	placed	HSA17	55.58
11	ACACA	25.54	1.12	frame	HSA17	32.52
11	ASB35	32.2	1.79	placed	HSA17	32.6
11	TKY033	61.06	1.72	frame	HSA17	33.1
11	TKY032	61.06	1.72	frame_identical	HSA17	33.1
11	NVHEQ090	69.55	2.38	placed		
11	AP2B1	78.05	2.2	placed	HSA17	30.94
11	LIG3	85.87	4	frame	HSA17	30.33
11	UMNe143	93.41	2.46	placed		
11	CCL2	104.73	2.89	frame	HSA17	29.61
11	11STS01	116.94	2.89	frame		
11	TKY648	134.86	1.26	frame		
11	TKY906	148.84	1.26	frame	HSA17	29
11	TKY010	162.17	2.34	frame		
11	EVI2A	174.91	0.62	placed	HSA17	26.67
11	ZNF207	178.97	2.35	frame	HSA17	27.70
11	TKY424	186.51	1.61	placed		
11	NF1	186.51	0.88	placed	HSA17	26.45
11	WSB1	---	[TKY010 - q- terminal]	binned	HSA17	22.65
11	OMG	---	[TKY010 - q-	binned	HSA17	26.65

11	LGALS9	---	terminal] [TKY010 - q- terminal]	binned	HSA17	22.98
11	GEMIN4	0	0.82	frame	HSA17	0.59
11	TIMM22	26.02	0.82	frame	HSA17	0.85
11	SKIP	45.66	2.14	placed	HSA17	1.34
11	TKY626	58.83	2.7	frame		
11	TKY276	78.47	3.52	placed	HSA17	3.4
11	CHRNE	104.62	0.34	placed	HSA17	4.74
11	GUCY2D	125.95	0.49	placed	HSA17	7.85
11	CXCL16	125.95	0.49	placed	HSA17	4.58
11	ENO3	133.18	2.55	frame	HSA17	4.80
11	CH241- 101K01_T7	---	[GEMIN4 - TKY626]	binned		
11	HTG26	---	[TKY626 - q- terminal]	binned		
11	BIRC4BP	---	[TKY626 - q- terminal]	binned	HSA17	6.60
11	MYH4	0	1.82	frame	HSA17	10.29
11	MYH3	27.04	1.82	frame	HSA17	10.47
11	RCVRN	42.17	2.18	placed	HSA17	9.74
11	HLM2	47.24	1.1	frame		
11	ELAC2	77.5	1.29	frame	HSA17	12.84
11	UMNe443	95.73	1.29	frame	HSA17	11.28
11	AHT125	---	[MYH3 - ELAC2]	binned		

Horse Chr.	Marker	Map Position (cR)	Placement LOD	Assignment	Human Chr.	Human Mb (Build 36.1)
12	FBXO3	0	5.43	frame	HSA11	33.72
12	CD44	22.4	5.43	frame	HSA11	35.12
12	UMNe109	39.88	2.2	placed	HSA11	37.1
12	TRAF6	46.6	1.08	placed	HSA11	36.47
12	RAG2	49.93	3.38	frame	HSA11	36.57
12	TKY683	49.93	3.38	frame_identical	HSA11	37.1
12	RAG1	49.93	3.38	frame_identical	HSA11	36.55
12	UMNe165/193/260	49.93	3.38	frame_identical	HSA11	37
12	UMNe469	67.28	3.38	frame		
12	TKY286	85.2	2.41	placed		
12	UMNe223	88.64	2.01	frame		
12	UMNe329	95.52	0.39	placed		
12	AHT056	98.89	2.01	frame		
12	TKY823	109.71	0.34	placed		
12	TKY734	130.42	0.14	placed	HSA11	45.2
12	SGCV10	138.33	9.08	frame	HSA11	44.6
12	AHT027	158.23	5.48	frame	HSA11	45.8
12	UMNe191	176.12	1.67	frame	HSA11	46.2
12	MADD	189.55	1.67	frame	HSA11	47.25

12	TKY769	224.47	5.84	frame		
12	RKJ12	---	[AHT056 - AHT027]	binned		
12	CNTF	0	5.55	frame	HSA11	58.15
12	UMNe331	22.99	1.67	frame		
12	TKY1143	30.82	1.67	frame	HSA11	58.9
12	TKY404	61.35	5	frame		
12	MS4A1	64.13	0.23	placed	HSA11	59.98
12	SGCV08	72.6	0.14	placed		
12	TKY1075	72.6	0.13	placed	HSA11	61.1
12	UMNe391	77.99	3.04	frame	HSA11	61.1
12	TKY482	97.35	2.7	frame		
12	SCGB1A1	113.66	2.7	frame	HSA11	61.94
12	EEF1G	121.57	3.05	frame	HSA11	62.08
12	ROM1	121.57	3.05	frame_identical	HSA11	62.14
12	B3GAT3	124.15	0.29	placed	HSA11	62.14
12	HRASLS3	144.17	9.54	frame	HSA11	63.10
12	COR030	158.05	2.09	placed		
12	PYGM	160.65	6.74	frame	HSA11	64.27
12	LRFN4	185.65	2.13	frame	HSA11	66.38
12	ACTN3	204.32	2.13	frame	HSA11	66.07
12	FBXL11	224.14	1.95	placed	HSA11	66.64
12	ADRBK1	229.6	10.38	frame	HSA11	66.79
12	TKY499	255.68	11.06	frame		
12	COR058	260.74	4.14	placed		
12	NADSYN1	271.26	7.61	frame	HSA11	70.84
12	IGF2	281.94	1.88	placed	HSA11	2.11
12	LSP1	287.14	3.03	frame	HSA11	1.83
12	TH	308.19	3.03	frame	HSA11	2.14
12	AHT122	380.35	1.84	frame		
12	UMNe168	389.88	1.84	frame	HSA11	2.8
12	DRD4	402.39	1.53	placed	HSA11	0.63
12	RPLP2	408.44	6.93	frame	HSA11	0.80
12	UCDEQ497	442.4	1.86	frame		
12	IFITM3	454.59	1.86	frame	HSA11	0.31
12	COR009	---	[EEF1G - PYGM]	binned		
12	UCDEQ411	---	[HRASLS3 - LRFN4]	binned		

Horse Chr.	Marker	Map Position (cR)	Placement LOD	Assignment	Human Chr.	Human Mb (Build 36.1)
13	MGC11257	0	6.41	frame	HSA7	1.00
13	GPR30	0	6.41	frame_identical	HSA7	1.09
13	WIP12	26.98	5.73	frame	HSA7	5.20
13	ACTB	37.07	3.58	frame	HSA7	5.53
13	SMURF1	44.51	1.39	frame	HSA7	98.46
13	ARPC1B	46.85	0.1	placed	HSA7	98.81
13	TRRAP	54.36	1.39	placed	HSA7	98.31
13	UMNe462	59.33	1.4	placed		

13	VHL161	66.53	1.39	frame		
13	TKY585	78.72	0.11	placed		
13	AZGP1	81.04	4.47	frame	HSA7	99.40
13	TKY031	88.31	4.47	frame		
13	TKY3276	115.57	1.41	frame		
13	TKY1025	143.18	2.42	frame		
13	TKY979	148.16	1.04	placed		
13	UMNe451	148.16	1.04	placed		
13	UMNe305	148.16	2.78	placed		
13	GNB2	150.64	2.64	placed	HSA7	100.11
13	SERPINE1	155.62	4.78	frame	HSA7	100.56
13	UMNe217	155.62	4.78	frame_identical		
13	TKY835	163.19	2.64	frame		
13	TKY1398	173.36	2.64	frame	HSA7	101.2
13	POR	183.9	5.45	frame	HSA7	75.42
13	UM030	186.53	3.49	placed	HSA7	75
13	HIP1	189.21	1.72	placed	HSA7	75.00
13	UMNe133	194.66	2.03	placed		
13	ELN	200.03	3.08	frame	HSA7	73.08
13	13STS01	218.44	3.08	frame		
13	COR069	---	[p-terminal - WIPI2]	binned		
13	PRKRIP1	---	[TKY1398 - ELN]	binned	HSA7	101.82
13	KDEL2	---	[ACTB - VHL161]	binned	HSA7	6.47
13	DKFZp434J 1015	---	[ACTB - VHL161]	binned	HSA7	6.63
13	LRCH4	---	[TKY031 - TKY1025]	binned	HSA7	100.01
13	TKY1092	---	[POR - 13STS01]	binned		
13	UMNe145	0	3.98	frame		
13	AUTS2	14.34	3.98	frame	HSA7	68.70
13	UMNe552	17.68	2.4	placed	HSA7	70.1
13	CH241- 102O19_T7	24.79	2.38	placed		
13	LEX041	28.47	2.77	placed	HSA7	71.6
13	VHL47	28.47	2.77	placed		
13	CCT6A	39.52	4.76	frame	HSA7	56.09
13	ERAF	50.2	4.6	placed	HSA16	31.45
13	SGCV03	53.54	2.3	placed		
13	VKORC1	56.88	5.8	frame	HSA16	31.01
13	C16orf53	67.56	2.54	placed	HSA16	29.74
13	ALDOA	71.13	0.21	placed	HSA16	29.97
13	CORO1A	71.13	0.22	placed	HSA16	30.10
13	ATP2A1	74.81	7.34	frame	HSA16	28.80
13	EIF3S8	74.81	7.34	frame_identical	HSA16	28.63
13	UMNe601	82.17	4.16	placed		
13	IL4R	102.04	5.69	frame	HSA16	27.23
13	TKY416	102.04	5.69	frame_identical		
13	UMNe344	113.94	5.69	frame		

13	TKY1176	126.87	2.33	placed		
13	RBBP6	151.91	5.82	frame	HSA16	24.46
13	UMNe276	151.91	5.82	frame_identical		
13	TKY581	151.91	5.82	frame_identical	HSA16	23.2
13	PRKCB1	151.91	5.82	frame_identical	HSA16	23.75
13	METTL9	156.42	2.51	placed	HSA16	21.52
13	TKY371	165.44	4.03	frame	HSA16	22.1
13	AHT095	174.47	0.38	placed		
13	TKY852	195.88	2.05	frame		
13	COQ7	217.29	2.09	placed	HSA16	18.99
13	SMG1	225.97	2.05	frame	HSA16	18.72
13	TKY421	244.98	4.2	frame	HSA16	17.6
13	C16orf63	260.03	5.49	frame	HSA16	15.87
13	TKY500	292	4.26	frame		
13	NVHEQ098	313.28	1.04	placed		
13	UMNe126	313.28	1.04	placed		
13	BFAR	318.6	4.26	frame	HSA16	14.63
13	ASB01	329.24	1.11	placed		
13	TKY594	333.99	3.32	placed	HSA16	12.3
13	PRM1	348.99	5.62	frame	HSA16	11.28
13	TKY561	362.53	2.37	placed	HSA16	10.6
13	TKY1047	370.16	1.65	frame	HSA16	10.5
13	CARHSP1	386.04	1.65	frame	HSA16	8.86
13	C16orf72	390.17	0.47	placed	HSA16	9.09
13	UMNe364	435.76	1.81	frame	HSA16	10.6
13	TKY981	472.18	1.81	frame		
13	TKY693	498.42	2.26	placed		
13	VASN	507.46	3.5	frame	HSA16	4.36
13	CREBBP	523.42	3.5	frame	HSA16	3.72
13	THOC6	523.42	3.5	frame_identical	HSA16	3.01
13	ASB37	---	[UMNe145 - CCT6A]	binned		
13	UMNe278	---	[SMG1 - C16orf63]	binned		
13	UMNe431	---	[UMNe344 - TKY371]	binned	HSA16	20.8
13	UBPH	---	[UMNe344 - TKY371]	binned	HSA16	23.48
13	AHT030	---	[IL4R - RBBP6]	binned	HSA16	25.6
13	GUSB	---	[AUTS2 - VKORC1]	binned	HSA7	65.06
13	PHKG1	---	[AUTS2 - VKORC1]	binned	HSA7	56.12
13	CH241- 106P18_T7	0	1.29	frame		
13	HN1L	16.48	0.29	placed	HSA16	1.67
13	TSC2	23.99	1.29	frame	HSA16	2.04
13	STUB1	56.34	1.43	placed	HSA16	0.67
13	HBA1	63.21	1.29	frame	HSA16	0.17

Horse Chr.	Marker	Map Position (cR)	Placement LOD	Assignment	Human Chr.	Human Mb (Build 36.1)
14	COR103/104	0	0.57	placed		
14	TKY948	19.37	4.45	frame	HSA5	179.9
14	RPL7ps	54.3	4.45	frame		
14	CANX	54.3	4.45	frame_identical	HSA5	179.06
14	SQSTM1	57.76	1.64	placed	HSA5	179.18
14	HK3	97.11	0.6	frame	HSA5	176.24
14	LMAN2	116.26	0.6	frame	HSA5	176.69
14	AHT029	125.92	2.98	placed	HSA5	176
14	TKY1053	149.03	1.91	placed	HSA5	173.8
14	BNIP1	154.81	3.1	frame	HSA5	172.50
14	TKY584	165.57	2.57	placed		
14	HTG11	170.63	0.28	placed	HSA5	171.7
14	UMNe315	175.73	2.03	placed		
14	STK10	181.11	3.1	frame	HSA5	171.40
14	FGF18	181.11	3.1	frame_identical	HSA5	170.78
14	DUSP1	191.94	0.67	placed	HSA5	172.13
14	LCP2	217.44	1.32	frame	HSA5	169.61
14	RARS	221.6	1.53	placed	HSA5	167.85
14	TKY267	229.64	0.38	placed	HSA5	168.2
14	UMNe581	233.36	1.32	frame	HSA5	168.6
14	LEX043	274.58	2.49	frame	HSA5	163.5
14	GABRG2	291.24	2.49	frame	HSA5	161.43
14	UMNe406	295.08	0.16	placed		
14	C1QTNF2	295.08	0.16	placed	HSA5	159.71
14	UMNe154	295.08	0.16	placed	HSA5	162.6
14	MAT2B	295.08	0.16	placed	HSA5	162.86
14	HMMR	295.08	0.16	placed	HSA5	162.82
14	TKY1145	302.76	1.2	placed		
14	EBF1	310.44	2.82	frame	HSA5	158.06
14	HTG29	314.43	0.17	placed		
14	CLINT1	322.75	2.52	placed	HSA5	157.15
14	MFAP3	342.06	0.11	placed	HSA5	153.40
14	CYFIP2	346.89	4.24	frame	HSA5	156.63
14	UMNe227	346.89	4.24	frame_identical	HSA5	155.4
14	TKY440	346.89	4.24	frame_identical	HSA5	155.4
14	CRSP9	346.89	4.24	frame_identical	HSA5	156.50
14	SOX30	346.89	4.24	frame_identical	HSA5	156.99
14	GRIA1	363.03	1.53	placed	HSA5	152.85
14	VHL204	384.55	4.24	frame		
14	TKY390	393.25	2.65	placed		
14	TKY376	393.25	2.65	placed	HSA5	151.5
14	UM010	393.25	2.65	placed		
14	ANXA6	401.28	4.5	frame	HSA5	150.46
14	RPS14	418.13	4.25	frame	HSA5	149.80
14	CD74	422.14	0.16	placed	HSA5	149.76
14	14STS01	425.99	2.57	placed		

14	SLC26A2	429.83	4.25	frame	HSA5	149.32
14	CSF1R	429.83	4.25	frame_identical	HSA5	149.41
14	PDE6A	429.83	4.25	frame_identical	HSA5	149.22
14	TKY329	438.15	4.74	placed	HSA5	148.9
14	ADRB2	446.84	1.59	frame	HSA5	148.19
14	DPYSL3	451.21	0.12	placed	HSA5	146.75
14	UM032	464.32	2.01	placed		
14	HTR4	479.24	1.59	frame	HSA5	147.81
14	UMNe474	507.62	1.07	placed	HSA5	145.7
14	TKY930	533.21	2.44	frame		
14	SH3RF2	553.43	1.98	frame	HSA5	145.30
14	TKY1990	565.42	1.98	frame	HSA5	144.9
14	VHL209	569.14	2.36	placed		
14	NR3C1	572.84	4.58	placed	HSA5	142.64
14	LEX047	583.96	4.63	placed	HSA5	141.9
14	UMNe460	591.64	1.04	frame		
14	TAF7	604.68	1.04	frame	HSA5	140.68
14	CD14	614.31	3.7	placed	HSA5	139.99
14	HARS	619.7	2.04	placed	HSA5	140.03
14	HBEGF	630.42	7.38	frame	HSA5	139.69
14	UBE2D2	649.73	6.21	frame	HSA5	138.92
14	JMJD1B	668.16	4.38	frame	HSA5	137.72
14	SMAD5	677	2.59	placed	HSA5	135.50
14	UMNe234	677	2.57	placed	HSA5	135
14	MYOT	681.55	4.38	frame	HSA5	137.23
14	TKY844	691.16	2.31	placed	HSA5	135.7
14	PPP2CA	707.3	2.01	frame	HSA5	133.56
14	DDX46	718.72	2.02	placed	HSA5	134.12
14	VDAC1	724.08	2.01	frame	HSA5	133.34
14	HSPA4	762.02	2.66	frame	HSA5	132.42
14	KIF3A	779.41	2.56	frame	HSA5	132.06
14	IRF1	801.18	2.56	frame	HSA5	131.85
14	TKY647	838.89	1.99	placed		
14	CSS3	848.49	5.11	frame	HSA5	129.27
14	ALDH7A1	871.31	3.04	frame	HSA5	125.91
14	MEGF10	884.97	3.04	frame	HSA5	126.65
14	FBN2	895.75	3	placed	HSA5	127.62
14	TKY1156	914.05	4.27	frame		
14	TKY1036	944.66	3.33	frame		
14	ZNF608	960.65	3.33	frame	HSA5	124.00
14	CSNK1G3	991.17	4.79	frame	HSA5	122.88
14	PPIC	995.18	0.95	placed	HSA5	122.39
14	TKY3053	1003.21	4.2	placed	HSA5	121.9
14	SNCAIP	1015.77	6.72	frame	HSA5	121.68
14	HSD17B4	1048.18	2.26	placed	HSA5	118.82
14	DMXL1	1058.97	1.72	frame	HSA5	118.44
14	YTHDC2	1075.11	1.72	frame	HSA5	112.88
14	SEMA6A	1124.66	1.73	placed	HSA5	115.81
14	TRIM36	1140.8	0.23	placed	HSA5	114.49
14	FEM1C	1150.94	1.49	frame	HSA5	114.88

14	CAMK4	1181.38	1.49	frame	HSA5	110.59
14	PJA2	1208.28	2.26	frame	HSA5	108.70
14	SLC25A46	1224.43	0.14	placed	HSA5	110.10
14	FBXL17	1238.82	2.26	frame	HSA5	107.22
14	UMNe489	1243.18	0.31	placed		
14	SOD2ps	1243.18	0.12	placed		
14	14STS02	1284.65	3.32	placed		
14	EFNA5	1338.08	3.65	placed	HSA5	106.74
14	TKY435	1357.54	6.65	placed	HSA5	103
14	TKY395	1370.54	1.92	placed	HSA5	102.7
14	PAM	1374	4.37	frame	HSA5	102.23
14	ST8SIA4	1389.38	4.37	frame	HSA5	100.17
14	CHD1	1393.22	2.58	placed	HSA5	98.22
14	PCSK1	1401.55	1.07	frame	HSA5	95.75
14	ZuBeEq13	1415.95	1.07	frame	HSA5	96.3
14	KIAA0372	1436.29	2.14	placed	HSA5	94.83
14	NR2F1	1440.49	3.72	frame	HSA5	92.94
14	GPR98	1461.31	6.22	frame	HSA5	89.89
14	TKY317	1468.24	2.68	placed		
14	MEF2C	1471.7	4.63	frame	HSA5	88.05
14	UM016	1471.7	4.63	frame_identical		
14	TMEM161B	1486.54	4.63	frame	HSA5	87.53
14	AHT083	1517.46	0.59	placed		
14	AHT088	1524.18	2.2	frame		
14	RASA1	1533.98	2.2	frame	HSA5	86.60
14	HAPLN1	1550.37	8.6	frame	HSA5	82.97
14	CSPG2	1556.9	2.2	placed	HSA5	82.80
14	ZFYVE16	1575.46	8.07	frame	HSA5	79.74
14	UMNe550	1575.46	8.07	frame_identical		
14	SCAMP1	1592.12	0.52	frame	HSA5	77.69
14	DMGDH	1601.25	0.61	placed	HSA5	78.33
14	ARSB	1606.05	0.52	frame	HSA5	78.11
14	TKY1151	1616.19	2.32	placed		
14	UMNe125	1636.47	0.54	placed	HSA5	77.3
14	LEX078	1636.47	1.84	placed		
14	UMNe194	1646.02	1.03	placed	HSA5	75.5
14	VHL162	1662.68	2.73	frame		
14	SV2C	1675.16	0.61	placed	HSA5	75.42
14	HMGCR	1679.32	2.73	frame	HSA5	74.67
14	HEXB	1691.81	0.51	frame	HSA5	74.02
14	COR002	1691.81	0.51	frame_identical	HSA5	73.7
14	TKY2524	1699.8	0.49	placed	HSA5	73.8
14	TKY438	1703.5	0.51	frame	HSA5	73.6
14	RGNEF	1725.26	1.61	placed	HSA5	72.96
14	UMNe239	1744.42	2.13	placed		
14	TKY636	1744.42	2.1	placed		
14	MCCC2	1748.41	1.07	frame	HSA5	70.92
14	14STS03	1764.4	1.07	frame		
14	TKY1114	---	[SLC26A2 - HTR4]	binned	HSA5	146.5
14	TKY3521	---	[VHL204 -	binned	HSA5	150.5

			RPS14]			
14	SPARC	---	[VHL204 - RPS14]	binned	HSA5	151.02
14	YIPF5	---	[HTR4 - UMNe460]	binned	HSA5	143.52
14	LARP1	---	[EBF1 - VHL204]	binned	HSA5	154.07
14	IL12B	---	[GABRG2 - CYFIP2]	binned	HSA5	158.67
14	TUDPEc277	---	[GABRG2 - CYFIP2]	binned	HSA5	158.0
14	TKY787	---	[UMNe581 - EBF1]	binned		
14	TKY656	---	[LEX043 - EBF1]	binned		
14	TKY841	---	[UMNe581 - EBF1]	binned		
14	UMNe321	---	[JMJD1B - PPP2CA]	binned		
14	UMNe458	---	[HBEGF - JMJD1B]	binned		
14	HMB1	---	[JMJD1B - PPP2CA]	binned		
14	CSF2	---	[KIF3A - CSS3]	binned	HSA5	131.44
14	UMNe187	---	[BNIP1 - LCP2]	binned		
14	CCDC100	---	[ZNF608 - SNCAIP]	binned	HSA5	122.71
14	TKY1677	---	[CSS3 - MEGF10]	binned	HSA5	126.4
14	UMNe584	---	[AHT088 - HAPLN1]	binned		
14	TKY491	---	[AHT088 - HAPLN1]	binned		
14	TKY971	---	[HAPLN1 - SCAMP1]	binned		
14	THBS4	---	[HAPLN1 - SCAMP1]	binned	HSA5	79.37
14	TKY527	---	[HAPLN1 - SCAMP1]	binned		
14	RPS23	---	[HAPLN1 - SCAMP1]	binned	HSA5	81.60
14	TNPO1	---	[HMGCR - MCCC2]	binned	HSA5	72.15
14	TKY749	---	[ZFYVE16 - ARSB]	binned		
14	TKY473	---	[ST8SIA4 - ZuBeEq13]	binned		
14	CAST	---	[ST8SIA4 - ZuBeEq13]	binned	HSA5	96.06
14	UMNe244	---	[ST8SIA4 - ZuBeEq13]	binned	HSA5	95.6

Horse Chr.	Marker	Map Position (cR)	Placement LOD	Assignment	Human Chr.	Human Mb (Build 36.1)
15	TKY1095	0	8.79	frame		
15	SEPT10	33.63	3.56	frame	HSA2	109.66
15	RANBP2	43.24	2.56	frame	HSA2	108.70
15	SULT1C1	56.56	0.23	placed	HSA2	108.27
15	TKY383	77.21	2.18	frame	HSA2	107.6
15	UMNe275	83.6	2.8	placed		
15	UMNe605	90.17	1.94	frame		
15	CH241-102M19_T7	107.4	1.44	frame		
15	TKY541	120.75	1.44	frame		
15	TKY392	138.87	3.94	frame		
15	IL18RAP	153.84	2.23	frame	HSA2	102.40
15	TBC1D8	168.81	2.23	frame	HSA2	100.99
15	REV1L	184.34	5.98	frame	HSA2	99.38
15	ACTR1B	206.34	1.15	frame	HSA2	97.64
15	SEMA4C	210.53	0.28	placed	HSA2	96.89
15	PROM2	223.86	2.15	placed	HSA2	95.30
15	15STS02	228.1	1.15	frame		
15	MERTK	263.55	2.65	frame	HSA2	112.37
15	SLC20A1	281.2	0.14	placed	HSA2	113.12
15	IL1A	284.33	2.65	frame	HSA2	113.25
15	IL1B	287.51	0.17	placed	HSA2	113.30
15	RPIA	293.9	3.82	frame	HSA2	88.77
15	UMNe198	311.45	2.11	placed	HSA2	88.2
15	REEP1	318.91	1.7	frame	HSA2	86.29
15	SFTP8	322.63	0.24	placed	HSA2	85.74
15	MAT2A	322.63	0.19	placed	HSA2	85.62
15	COR076	335.94	1.15	frame	HSA2	85.9
15	TKY861	340.15	2.64	placed	HSA2	85
15	TMSB10	348.53	1.15	frame	HSA2	84.99
15	CAPG	357.27	2.18	placed	HSA2	85.48
15	TKY814	366.19	3.19	placed		
15	S22	388.48	2.43	frame		
15	B-8	392.34	2.01	placed		
15	CTNNA2	403.97	2.23	placed	HSA2	79.59
15	TKY976	403.97	2.23	placed	HSA2	79.9
15	TKY2955	403.97	2.23	placed	HSA2	81
15	UMNe250	403.97	2.23	placed		
15	NVHEQ083	414.79	0.18	placed	HSA2	75.8
15	TKY3526	414.79	0.18	placed	HSA2	76.9
15	TKY2469	414.79	0.18	placed	HSA2	76
15	HK2	418.3	1.9	frame	HSA2	74.91
15	MOBK1B	418.3	1.9	frame_identical	HSA2	74.24
15	TKY369	422.02	1.26	placed	HSA2	74.1
15	TKY518	433.65	1.9	frame	HSA2	73
15	ADD2	444.54	2.3	placed	HSA2	70.74
15	TIA1	448.04	1.92	frame	HSA2	70.29

15	TKY011	448.04	1.92	frame_identical	HSA2	70.4
15	PLEK	471.42	3.94	frame	HSA2	68.45
15	TKY1091	471.42	3.94	frame_identical	HSA2	68
15	LEX051	475.14	2.22	placed	HSA2	66.9
15	TKY327	483.18	2.44	placed		
15	GFPT1	506.58	2.37	placed	HSA2	69.41
15	TKY531	521.57	0.16	placed		
15	SLC1A4	525.17	2.06	frame	HSA2	65.07
15	TKY2992	535.39	1.71	placed	HSA2	64.3
15	MDH1	542.24	2.06	frame	HSA2	63.67
15	UMNe219	615.73	1.38	placed		
15	COMMD1	666.09	1.91	frame	HSA2	61.99
15	LEX046	669.22	0.32	placed		
15	PAPOLG	675.66	0.28	placed	HSA2	60.84
15	UMNe156	682.24	1.1	placed	HSA2	59.7
15	TKY571	682.24	1.1	placed		
15	VRK2	689	1.91	frame	HSA2	58.13
15	EFEMP1	699.67	2.48	placed	HSA2	55.95
15	RTN4	714.39	5.61	frame	HSA2	55.05
15	SPTBN1	721.85	2.07	placed	HSA2	54.61
15	ACYP2	729.4	3.27	placed	HSA2	54.20
15	TKY2891	744.46	5.61	frame	HSA2	52.8
15	FSHR	772.14	1.31	frame	HSA2	49.04
15	FBXO11	787.85	1.12	frame	HSA2	47.89
15	LHCGR	804.09	1.11	frame	HSA2	48.77
15	ASB15	812.52	0.31	placed		
15	TKY779	816.7	1.11	frame		
15	15STS01	843.17	1.88	frame		
15	TKY926	872.4	3.48	frame		
15	MCFD2	886.3	0.92	placed	HSA2	46.98
15	TKY815	886.3	1.85	placed	HSA2	47
15	ZFP36L2	895.07	3.48	frame	HSA2	43.30
15	ASB02	895.07	3.48	frame_identical	HSA2	44.2
15	SLC3A1	899.45	0.27	placed	HSA2	44.36
15	SGCV21	903.64	2.3	placed	HSA2	44.2
15	TKY885	931.57	4.07	frame	HSA2	40.3
15	SLC8A1	962.71	3.95	frame	HSA2	40.20
15	TKY3086	966.6	0.61	placed	HSA2	40.3
15	MAP4K3	975.09	3.95	frame	HSA2	39.33
15	UMNe373	975.09	3.95	frame_identical	HSA2	37.7
15	ASB19	975.09	3.95	frame_identical	HSA2	39.8
15	CEBPZ	993.53	3.92	frame	HSA2	37.28
15	TKY104	997.91	0.16	placed	HSA2	33.5
15	COR077	997.91	0.15	placed		
15	LTBP1	1006.73	3.92	frame	HSA2	33.03
15	XDH	1032.37	4.07	placed	HSA2	31.41
15	PPP1CB	1081.94	0.25	placed	HSA2	28.83
15	FOSL2	1103	4.22	frame	HSA2	28.47
15	NRBP1	1103	4.22	frame_identical	HSA2	27.50
15	CAD	1117.54	1.66	placed	HSA2	27.29

15	TKY629	1138.06	2.43	placed	HSA2	26.6
15	RAB10	1142.66	4.22	frame	HSA2	26.11
15	POMC	1142.66	4.22	frame_identical	HSA2	25.24
15	ITSN2	1158.02	4.1	frame	HSA2	24.28
15	HTG06	1175.45	4.1	frame		
15	ARID5A	---	[ACTR1B - MERTK]	binned	HSA2	96.57
15	UMNe222	---	[TKY392 - TBC1D8]	binned	HSA2	102.6
15	EIF5B	---	[TBC1D8 - ACTR1B]	binned	HSA2	99.32
15	TKY795	---	[VRK2 - TKY2891]	binned	HSA2	54.6
15	TKY2810	---	[PLEK - COMMD1]	binned	HSA2	66
15	TKY565	---	[TKY518 - PLEK]	binned	HSA2	71
15	IL1RN	---	[IL1A - REEP1]	binned	HSA2	113.59
15	PAX8	---	[MERTK - RPIA]	binned	HSA2	113.69
15	UMNe575	---	[LTBP1 - RAB10]	binned		
15	UMNe245	---	[SLC8A1 - CEBPZ]	binned		
15	SGCV06	---	[TKY926 - TKY885]	binned		
15	UMNe102	---	[COMMD1 - RTN4]	binned	HSA2	59.1
15	UMNe149	---	[COMMD1 - RTN4]	binned		
15	TKY1033	---	[COMMD1 - RTN4]	binned		
15	PELI1	---	[SLC1A4 - COMMD1]	binned	HSA2	64.17
15	TKY3402	---	[SLC1A4 - COMMD1]	binned	HSA2	64.3
15	COR042	0	2.82	frame		
15	DDX1	16.52	2.82	frame	HSA2	15.65
15	TKY433	27.58	1.32	placed	HSA2	15.2
15	ROCK2	60.41	7.05	frame	HSA2	11.24
15	UMNe388	89.64	1.87	placed		
15	DDEF2	95.65	4.49	frame	HSA2	9.26
15	ID2	102.09	1.82	placed	HSA2	8.74
15	COR014	108.53	3.8	placed	HSA2	6
15	HMS01	108.53	3.8	placed		
15	UMNe084	108.53	3.8	placed		
15	RSAD2	126.29	3.32	frame	HSA2	6.94
15	CH241-100A9_T7	148.34	3.32	frame		
15	TKY1015	189.35	0.2	placed		
15	15CA001	195.79	1.32	frame		
15	TKY1165	202.73	0.17	placed	HSA2	3.2
15	MYT1L	217.86	1.32	frame	HSA2	1.77

15	TKY2783	---	[ROCK2 - RSAD2]	binned	HSA2	8.9
15	TKY743	---	[DDEF2 - CH241- 100A9_T7]	binned	HSA2	8
15	COR075	---	[ROCK2 - RSAD2]	binned	HSA2	6

Horse Chr.	Marker	Map Position (cR)	Placement LOD	Assignment	Human Chr.	Human Mb (Build 36.1)
16	TKY1066	0	1.36	frame		
16	TKY921	26.73	1.98	placed		
16	GPR175	36.27	1.36	frame	HSA3	128.77
16	COPG	58.06	5.93	frame	HSA3	130.45
16	COR039	82	5.8	frame		
16	AHT037	112.39	3.08	frame		
16	RHO	133.7	1.21	frame	HSA3	130.73
16	PPARG	176.53	1.6	frame	HSA3	12.30
16	RAF1	195.62	0.64	placed	HSA3	12.60
16	UMNe277	204.69	2.18	frame		
16	CRELD1	222.01	5.55	frame	HSA3	9.95
16	TKY279	222.01	5.55	frame_identical	HSA3	10.3
16	HTG03	242.76	4.89	frame		
16	CH241- 101A11_SP6	258.77	1.07	frame		
16	UMNe348	285.91	1.07	frame		
16	AHT081	347.96	1.13	frame		
16	TKY3372	362.74	1.13	frame	HSA3	5
16	ITPR1	366.3	0.13	placed	HSA3	4.51
16	BHLHB2	373.95	3.99	frame	HSA3	5.00
16	AHT063	377.93	0.34	placed		
16	TKY719	409.77	1.89	frame		
16	TKY781	422.75	1.89	frame		
16	CHL1	454.85	1.75	frame	HSA3	0.21
16	CH241- 111J21_SP6	476.36	1.75	frame		
16	UMNe122	---	[TKY3372 - TKY719]	binned		
16	C3orf10	---	[UMNe277 - HTG03]	binned	HSA3	10.13
16	GHRL	---	[UMNe277 - HTG03]	binned	HSA3	10.30
16	FOXP1	0	1.78	frame	HSA3	71.09
16	CH241- 102N14_T7	16.85	2.28	placed		
16	FRMD4B	28.95	1.78	frame	HSA3	69.30
16	TMF1	49.88	0.87	placed	HSA3	69.16
16	MITF	65.48	1.78	frame	HSA3	69.87
16	PSMD6	0	0	frame	HSA3	63.97

16	TKY311	11.71	0.91	placed	HSA3	63.4
16	TKY637	11.71	0.91	placed	HSA3	63.4
16	CH241- 100N15_T7	16.88	0	frame		
16	UMNe468	---	[p-terminal - CH241- 100N15_T7]	binned		
16	TKY687	0	3	frame		
16	IL17RD	13.8	3	frame	HSA3	57.10
16	AHT038	13.8	3	frame_identical	HSA3	58.1
16	UMNe213	13.8	3	frame_identical		
16	SLMAP	22.62	2.38	placed	HSA3	57.72
16	ARHGEF3	36.49	4.81	frame	HSA3	56.74
16	WNT5A	56.9	4.02	frame	HSA3	55.47
16	TKY350	66.14	2.67	placed		
16	TKY349	70.55	3.68	placed	HSA3	54.5
16	LEX059	75.16	3.21	placed	HSA3	54.1
16	CACNA1D	79.79	4.02	frame	HSA3	53.50
16	TKT	103.9	4.88	frame	HSA3	53.23
16	WDR51A	120.07	4.88	frame	HSA3	52.08
16	RPL29	141.97	0.97	frame	HSA3	52.00
16	TKY1069	161.45	0.97	frame	HSA3	52.4
16	IFRD2	197.27	3.83	frame	HSA3	50.30
16	RBM5	214.8	2.18	frame	HSA3	50.10
16	HMS74	214.8	2.18	frame_identical		
16	GPX1	214.8	2.18	frame_identical	HSA3	49.37
16	IHPK2	234.92	2.18	frame	HSA3	48.70
16	HTG13	255.15	1.68	placed		
16	MAP4	274.96	2.28	placed	HSA3	47.87
16	PTHR1	310.45	0.62	placed	HSA3	46.89
16	LTF	330.91	0.51	placed	HSA3	46.45
16	CCRL2	339.69	3.16	frame	HSA3	46.42
16	TMEM16K	352.33	0.86	placed	HSA3	43.38
16	SLC6A20	361.14	2.29	placed	HSA3	45.77
16	CTNNB1	374.42	3.16	frame	HSA3	41.22
16	EIF1B	405.49	3.41	placed	HSA3	40.33
16	TKY1131	413.22	1.84	placed	HSA3	38.9
16	MLH1	420.95	4.78	frame	HSA3	37.01
16	GOLGA4	428.99	3.84	placed	HSA3	37.26
16	PDCD6IP	447.36	1.9	frame	HSA3	33.81
16	LEX048	466.79	2.34	placed		
16	RBMS3	476.04	1.11	frame	HSA3	29.30
16	UMNe585	485.7	1.37	placed	HSA3	30.9
16	DYNC1LI1	490.32	1.11	frame	HSA3	32.54
16	TGFBR2	494.73	1.21	placed	HSA3	30.62
16	TKY1032	503.55	2.35	placed		
16	GLB1	512.73	3.27	placed	HSA3	33.01
16	CRTAP	522.47	2.08	frame	HSA3	33.13
16	TKY871	---	[WNT5A - TKT]	binned		
16	ARF4	---	[TKY687 -	binned	HSA3	57.53

			ARHGEF3]			
16	TKY388	---	[TKY687 - ARHGEF3]	binned	HSA3	44.3
16	UM042	---	[IHPK2 - CTNNB1]	binned		
16	ABHD5	---	[IHPK2 - CTNNB1]	binned	HSA3	43.71
16	TKY667	---	[CACNA1D - WDR51A]	binned		
16	CISH	---	[WDR51A - TKY1069]	binned	HSA3	50.62
16	ACY1	---	[WDR51A - TKY1069]	binned	HSA3	51.99
16	UQCRC1	---	[IFRD2 - IHPK2]	binned	HSA3	48.61
16	UMNe566	---	[PDCD6IP - CRTAP]	binned	HSA3	30.7
16	UMNe264	---	[CTNNB1 - PDCD6IP]	binned	HSA3	35.1
16	RPSA	---	[CTNNB1 - PDCD6IP]	binned	HSA3	39.42
16	ACAA1	---	[CTNNB1 - PDCD6IP]	binned	HSA3	38.14
16	ITGA9	---	[CTNNB1 - PDCD6IP]	binned	HSA3	37.47
16	TKY2022	---	[CTNNB1 - PDCD6IP]	binned	HSA3	39.1
16	TOP2B	0	0	frame	HSA3	25.61
16	AHT014	---	[p-terminal - q-terminal]	binned		
16	RARB	---	[p-terminal - q-terminal]	binned	HSA3	25.44
16	COR052	---	[p-terminal - q-terminal]	binned		
16	TKY1930	0	3.54	frame	HSA3	27.4
16	VHL145	17.73	3.54	frame		
16	PCAF	36.46	5.65	frame	HSA3	20.06
16	TUDPEc039	58.63	1.34	placed		
16	SATB1	69.12	0.86	frame	HSA3	18.36
16	RFTN1	0	2.85	frame	HSA3	16.33
16	UMNe562	0	2.85	frame_identical	HSA3	16.9
16	DAZL	5.18	0.56	placed	HSA3	16.60
16	UCDEQ505	32.6	0.64	placed		
16	TKY800	70.97	2.85	frame		
16	CDV3	134.79	2.38	placed	HSA3	134.78
16	TF	172.86	3.36	frame	HSA3	134.95
16	SLCO2A1	172.86	3.36	frame_identical	HSA3	135.13
16	LEX056	190.51	3.36	frame		
16	TKY1149	209.04	0.49	placed	HSA3	136.8
16	TKY532	223.68	0.16	placed	HSA3	136.1
16	COR064	256.57	2	frame	HSA3	136.0

16	TKY1086	278.57	2.96	frame		
16	I-18	288.37	1.02	placed		
16	STAG1	329.41	1.09	placed	HSA3	137.54
16	MPZ002	351.48	2.09	frame		
16	COPB2	366.17	2.09	frame	HSA3	140.56
16	16STS01	379.49	5.67	frame		
16	PLOD2	413.62	5.45	frame	HSA3	147.27
16	TKY347	422.45	4.04	placed	HSA3	148.0
16	AHT060	436.36	4.96	frame		
16	NVHEQ216	445.63	2.61	placed		
16	TKY802	455.46	0.68	placed		
16	CP	465.29	4.96	frame	HSA3	150.37
16	TKY445	465.29	4.96	frame_identical		
16	TKY341	465.29	4.96	frame_identical		
16	TKY563	474.13	4	placed		
16	MBNL1	490.39	0.97	placed	HSA3	153.50
16	CH241-100I1_T7	494.01	2.39	frame		
16	AHT091	535.73	2.39	frame		
16	TKY936	---	[MPZ002 - 16STS01]	binned		
16	TKY406	---	[MPZ002 - 16STS01]	binned		
16	GYG1	---	[AHT060 - CH241-100I1_T7]	binned	HSA3	150.19

Horse Chr.	Marker	Map Position (cR)	Placement LOD	Assignment	Human Chr.	Human Mb (Build 36.1)
17	ZMYM2	0	1.29	frame	HSA13	19.43
17	LATS2	9.02	1.29	frame	HSA13	20.45
17	UMNe521	9.02	1.29	frame_identical	HSA13	20.3
17	EFHA1	11.94	0.29	placed	HSA13	20.96
17	RNF6	33.86	6.33	frame	HSA13	25.60
17	MTMR6	42.68	6.33	frame	HSA13	24.72
17	TKY796	42.68	6.33	frame_identical	HSA13	25.4
17	COR105	42.68	6.33	frame_identical		
17	TKY287	45.6	0.13	placed		
17	TKY373	48.46	0.24	placed		
17	SGCG	48.46	0.24	placed	HSA13	22.65
17	TKY1128	48.46	0.24	placed		
17	COR007	64.36	2.65	placed	HSA13	26.2
17	UMNe52	67.49	6.73	frame		
17	PAN3	76.95	6.73	frame	HSA13	27.65
17	FLT1	79.94	2.66	placed	HSA13	27.77
17	TKY328	88.82	0.19	placed		
17	UMNe384	104.49	3.98	placed	HSA13	28.2
17	LEX076	107.55	8.46	frame		
17	NVHEQ024	120.91	5.16	frame		
17	BRCA2	136.07	5.16	frame	HSA13	31.79

17	POLR1D	---	[MTMR6 - PAN3]	binned	HSA13	27.09
17	CRYL1	---	[ZMYM2 - RNF6]	binned	HSA13	19.88
17	COR072	---	[RNF6 - UMNe52]	binned	HSA13	23.5
17	AHT102	---	[UMNe52 - LEX076]	binned		
17	STARD13	0	0	frame	HSA13	32.58
17	TKY102	6.61	0.26	placed	HSA13	32.5
17	TKY826	30.08	0	frame		
17	NBEA	---	[p-terminal - TKY826]	binned	HSA13	34.41
17	EXOSC8	0	2.98	placed	HSA13	36.47
17	ALG5	0	2.68	placed	HSA13	36.42
17	SPG20	0	1.74	placed	HSA13	35.77
17	17STS04	14.5	4.5	frame		
17	COG6	34.23	1.53	placed	HSA13	39.13
17	LHFP	45.64	4.07	placed	HSA13	38.82
17	THSD1	55.72	4.5	frame	HSA13	51.85
17	VPS36	55.72	4.5	frame_identical	HSA13	51.88
17	17STS02	55.72	4.5	frame_identical		
17	CCDC70	85.81	2.64	frame	HSA13	51.33
17	NVHEQ079	99.05	2.4	placed	HSA13	49.9
17	TKY983	99.05	2.4	placed	HSA13	50.1
17	TKY969	99.05	2.4	placed	HSA13	50.1
17	TKY951	118.88	0.26	placed	HSA13	49.6
17	KPNA3	150.41	0.67	placed	HSA13	49.17
17	17STS03	158.42	2.64	frame		
17	CYSLTR2	158.42	2.64	frame_identical	HSA13	48.18
17	TKY2700	158.42	2.64	frame_identical	HSA13	48.4
17	TRIM13	165.69	0.57	placed	HSA13	49.47
17	TKY103	189.38	1.86	placed	HSA13	48.3
17	LCP1	0	0	frame	HSA13	45.60
17	ESD	0	0	frame_identical	HSA13	46.24
17	UMNe176	0	0	frame_identical		
17	TKY1133	0	0	frame_identical		
17	COR067	0	0	frame_identical	HSA13	45.8
17	HTR2A	---	[p-terminal - q-terminal]	binned	HSA13	46.31
17	ITM2B	---	[p-terminal - q-terminal]	binned	HSA13	47.71
17	RB1	---	[p-terminal - q-terminal]	binned	HSA13	47.78
17	HMS41	---	[p-terminal - q-terminal]	binned	HSA13	47.9
17	WBP4	0	0.35	frame	HSA13	40.53

17	UCDEQ014	15.82	1.76	placed		
17	UMNe162/246	37.24	3.53	placed		
17	PCDH17	48.61	0.35	frame	HSA13	57.10
17	LOC144997	74.79	0.62	placed		
17	TKY3156	81.49	0.35	frame	HSA13	60.2
17	TKY825	---	[p-terminal - PCDH17]	binned	HSA13	52.6
17	TKY481	---	[p-terminal - PCDH17]	binned	HSA13	40.9
17	UMNe235	0	2.19	placed	HSA13	66.3
17	PCDH9	13.22	1.29	frame	HSA13	65.77
17	COR032	13.22	1.29	frame_identical	HSA13	66.5
17	KLHL1	32.93	1.29	frame	HSA13	69.17
17	DACH1	46.15	4.27	placed	HSA13	70.91
17	KLF5	77.47	0.2	placed	HSA13	72.53
17	MYCBP2	108.8	0.2	placed	HSA13	76.52
17	CLN5	116.06	3.44	frame	HSA13	76.46
17	EDNRB	116.06	3.44	frame_identical	HSA13	77.37
17	TBC1D4	123.31	2.25	placed	HSA13	74.76
17	VHL179	123.31	2.25	placed		
17	TKY893	136.54	1.99	placed		
17	TKY2549	148.83	2.12	frame	HSA13	78.3
17	TKY2347	175.07	2.12	frame	HSA13	79.7
17	TKY1102	--	[PCDH9 - CLN5]	binned	HSA13	67.9
17	KCTD12	--	[KLHL1 - TKY2549]	binned	HSA13	76.35
17	C13orf24	--	[KLHL1 - TKY2549]	binned	HSA13	72.25
17	KLF12	--	[KLHL1 - TKY2549]	binned	HSA13	73.16
17	TKY869	--	[KLHL1 - TKY2549]	binned	HSA13	75.4
17	UCHL3	0	1.97	frame	HSA13	75.02
17	LEX067	13.31	1.97	frame		
17	NDFIP2	23.66	1.28	placed	HSA13	78.95
17	RANBP5	29.52	1.24	placed	HSA13	97.40
17	TKY684	35.07	2.22	placed	HSA13	96.7
17	TKY2567	40.28	0.1	placed	HSA13	96.6
17	HMS25	65.66	0.12	placed	HSA13	90.8
17	DCT	78.39	1.45	frame	HSA13	93.89
17	TKY924	91.13	0.89	placed		
17	SLITRK6	91.13	0.87	placed	HSA13	85.26
17	GPC5	97.55	1.45	frame	HSA13	90.85
17	GPC6	103.95	1.56	placed	HSA13	92.68
17	TKY865	119.27	1.24	placed		
17	TKY379	---	[LEX067 - GPC5]	binned	HSA13	94.2

17	RP11-477B16	---	[LEX067 - GPC5]	binned		
17	CLDN10	---	[LEX067 - GPC5]	binned	HSA13	94.88
17	DZIP1	---	[LEX067 - GPC5]	binned	HSA13	95.03
17	PHGDHL1	0	0	frame	HSA13	98.65
17	TKY546	0	0	frame_identical		
17	TM9SF2	0	0	frame_identical	HSA13	98.95
17	TKY1301	---	[p-terminal - q-terminal]	binned	HSA13	99.2
17	BIVM	0	3.12	frame	HSA13	102.25
17	ITGBL1	20.8	2.06	placed	HSA13	100.90
17	C13orf27	26.38	3.3	frame	HSA13	102.22
17	FGF14	26.38	3.3	frame_identical	HSA13	101.17
17	EFNB2	58.01	1.84	frame	HSA13	105.94
17	TKY792	69.91	2.04	placed	HSA13	107.2
17	TKY356	93.5	0.78	frame		
17	LIG4	117.09	0.78	frame	HSA13	107.66
17	TKY1071	---	[C13orf27 - TKY356]	binned	HSA13	105
17	TKY2597	---	[C13orf27 - TKY356]	binned	HSA13	106.3
17	FLJ10154	----	[C13orf27 - TKY356]	binned	HSA13	105.99
17	CDC16	0	0	frame	HSA13	114.02
17	CUL4A	4.66	1.47	placed	HSA13	112.91
17	LAMP1	9.09	3.07	placed	HSA13	113.00
17	F10	22.38	0	frame	HSA13	112.83

Horse Chr.	Marker	Map Position (cR)	Placement LOD	Assignment	Human Chr.	Human Mb (Build 36.1)
18	BIN1	0	1.41	frame	HSA2	127.52
18	UCDEQ136	6.61	1.58	placed		
18	PROC	26.37	1.41	frame	HSA2	127.89
18	AHT115	46.14	1.41	frame		
18	CLASP1	0	2.56	frame	HSA2	121.81
18	CH241-111C11_SP6	12.76	2.52	placed	HSA2	122
18	CH241-111C11_T7	12.76	2.52	placed	HSA2	122
18	TKY589	21.65	2.19	frame		
18	EPB41L5	34.42	2.19	frame	HSA2	120.49
18	NVHEQ133	51.47	1.99	frame		
18	UMNe308	55.4	0.18	placed		
18	TKY1055	62.99	1.99	frame	HSA2	120.1
18	TUDPEc010	77.2	4.47	frame		
18	DDX18	91.93	4.47	frame	HSA2	118.29
18	LEX016	107.23	4.74	frame	HSA2	116.1
18	ACTR3	137.72	3.92	frame	HSA2	114.36
18	TKY449	148.04	2.41	placed	HSA2	133.3

18	LEX054	151.57	3.92	frame		
18	UMNe442	155.11	2.38	placed	HSA2	134
18	MGAT5	169.8	4.04	frame	HSA2	134.73
18	MCM6	207.49	0.76	placed	HSA2	136.31
18	CXCR4	230.93	1.21	frame	HSA2	136.59
18	NVHEQ077	252.25	2.96	frame	HSA2	138.8
18	UMNe097	256.02	2.55	placed		
18	KYNU	263.56	1.31	frame	HSA2	143.35
18	LRP1B	263.56	1.31	frame_identical	HSA2	140.71
18	SGCV07	271.72	1.29	placed		
18	UMNe50	289.55	2.66	placed	HSA2	140.2
18	AHT080	298.06	1.31	frame		
18	ZEB2	327.75	2.28	frame	HSA2	144.86
18	TKY407	---	[TUDPEc010 - LEX016]	binned	HSA2	117.5
18	UMNe263	---	[ACTR3 - MGAT5]	binned		
18	HMS46	---	[NVHEQ077 - AHT080]	binned	HSA2	144
18	TKY909	---	[NVHEQ077 - AHT080]	binned	HSA2	144.4
18	UMNe095	---	[NVHEQ077 - AHT080]	binned		
18	ORC4L	0	0.87	frame	HSA2	148.41
18	UMNe114	9.87	0.97	placed		
18	TKY426	19.82	0.87	frame	HSA2	149.7
18	NEB	35.62	1.19	placed	HSA2	152.05
18	TNFAIP6	40.56	4.23	frame	HSA2	151.92
18	PRPF40A	57.14	1.13	placed	HSA2	153.22
18	COR096	79.23	2.37	frame	HSA2	156.7
18	KIF5C	92.62	2.37	frame	HSA2	149.51
18	PSCDBP	110.45	1.84	frame	HSA2	157.98
18	ACVR1	110.45	1.84	frame_identical	HSA2	158.30
18	HTG28	110.45	1.84	frame_identical		
18	TKY608	114.72	1.1	placed		
18	BAZ2B	133.51	1.22	frame	HSA2	159.88
18	DPP4	158.45	0.74	placed	HSA2	162.56
18	PSMD14	173.69	0.29	placed	HSA2	161.87
18	GCG	183.26	1.22	frame	HSA2	162.71
18	TANK	192.19	0.57	placed	HSA2	161.70
18	GCA	206.25	2.25	placed	HSA2	162.91
18	UMNe505	227.17	0.14	placed	HSA2	164.3
18	TKY545	232.13	3.57	frame		
18	GRB14	248.78	0.22	placed	HSA2	165.06
18	LRP2	293.48	1.83	placed	HSA2	169.69
18	SSB	302.86	1.93	frame	HSA2	170.36
18	GAD1	311.94	0.15	placed	HSA2	171.38
18	TKY1913	316.3	1.93	frame		
18	DYNC1I2	347.78	0.22	placed	HSA2	172.25
18	PDK1	357.68	2.11	frame	HSA2	173.13
18	TKY741	362.16	0.16	placed		

18	CHRNA1	371.09	2.11	frame	HSA2	175.32
18	TKY322	371.09	2.11	frame_identical	HSA2	176.3
18	18STS01	397.2	4.02	frame		
18	NFE2L2	429.3	3.25	frame	HSA2	177.80
18	UMNe180	441.26	2.3	placed	HSA2	177.8
18	HOXD10	447.18	3.15	frame	HSA2	176.69
18	CH241-101P3	488.62	5.25	frame	HSA2	195.3
18	TKY943	499.78	2.41	placed	HSA2	196.2
18	SF3B1	511.81	5.25	frame	HSA2	197.96
18	HSPD1	534.19	2.94	frame	HSA2	198.06
18	HLM3	549.03	2.14	placed		
18	UCDEQ387	553.73	0.23	placed		
18	HMS75	567.18	1.15	placed		
18	AOX1	575.4	2.94	frame	HSA2	201.16
18	BZW1	583.91	1.41	placed	HSA2	201.38
18	TKY1008	616.76	4.28	frame	HSA2	202.7
18	WDR12	630.23	0.87	placed	HSA2	203.45
18	CD28	644.31	3.68	frame	HSA2	204.28
18	UMNe243	660.63	3.68	frame	HSA2	205
18	TKY1260	669.18	2.3	placed	HSA2	205.2
18	FASTKD2	703.77	1.58	frame	HSA2	207.34
18	IDH1	725.05	1.58	frame	HSA2	208.81
18	GDF8	796.09	2.68	frame	HSA2	190.63
18	TKY017	801.65	1.53	placed	HSA2	191.1
18	MYO1B	811.61	2.38	frame	HSA2	191.82
18	COL3A1	826.48	1.23	placed	HSA2	189.55
18	TFPI	831.2	2.22	frame	HSA2	188.04
18	ITGAV	835.93	2.6	placed	HSA2	187.16
18	UMNe501	835.93	1.2	placed	HSA2	187.3
18	TKY101	835.93	1.2	placed		
18	FRZB	850.71	2.22	frame	HSA2	183.41
18	ITGA4	861.22	3.23	placed	HSA2	182.03
18	SSFA2	871.67	3.29	frame	HSA2	182.46
18	NMI	---	[TKY426 - COR096]	binned	HSA2	151.84
18	UMNe307	---	[ORC4L - TNFAIP6]	binned		
18	TKY303	---	[ORC4L - TNFAIP6]	binned	HSA2	149.1
18	NR4A2	---	[COR096 - PSCDBP]	binned	HSA2	156.89
18	UMNe089	---	[TNFAIP6 - KIF5C]	binned		
18	TKY692	---	[TNFAIP6 - KIF5C]	binned	HSA2	156.3
18	ATF2	---	[PDK1 - 18STS01]	binned	HSA2	175.65
18	TKY016	---	[GDF8 - TFPI]	binned	HSA2	191.1
18	EEF1B2	---	[UMNe243 - IDH1]	binned	HSA2	206.73

18	NDUFS1	---	[UMNe243 - IDH1]	binned	HSA2	206.70
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Horse Chr.	Marker	Map Position (cR)	Placement LOD	Assignment	Human Chr.	Human Mb (Build 36.1)
19	AHT094	0	6.49	frame	HSA3	157.3
19	AHT041	19.28	6.07	frame	HSA3	157.3
19	UMNe440	32.77	0.77	frame		
19	TKY510	48.78	0.77	frame		
19	B3GALNT1	62.32	1.02	placed	HSA3	162.2
19	UMNe325	101.71	0.54	placed		
19	VHL011	123.67	1.84	placed		
19	BCHE	195.3	1.82	frame	HSA3	166.97
19	UMNe106	208.96	1.82	frame		
19	UMNe351	243.48	0.8	placed		
19	AHT106	268.82	0.56	frame		
19	MPZ003	277.91	0.56	frame		
19	UMNe599	277.91	0.56	frame_identical		
19	UMNe221	277.91	0.56	frame_identical		
19	HTG23	286.99	2.93	frame		
19	TKY448	299.44	2.36	placed	HSA3	170.8
19	MYNN	305.79	2.41	frame	HSA3	170.97
19	TLOC1	312.52	0.67	placed	HSA3	171.17
19	19STS01	326.03	2.41	frame		
19	TKY419	346.39	1.12	placed	HSA3	171.6
19	AHT052	381.48	0.41	placed	HSA3	170.8
19	TKY738	415.35	6.76	frame		
19	TKY713	436.32	5.96	frame	HSA3	174.3
19	TBL1XR1	455.6	5.96	frame	HSA3	178.22
19	HTG24	468.62	2.49	placed		
19	LEX040	477.28	0.12	placed	HSA3	181.5
19	FXR1	481.28	2.19	frame	HSA3	182.11
19	CH241-100C11_T7	493.82	2.02	placed	HSA3	185.1
19	ABCF3	502.12	2.19	frame	HSA3	185.39
19	BCL6	522.98	1.78	frame	HSA3	188.92
19	LEX035	534.09	1.28	frame		
19	AHSG	554.11	2.36	frame	HSA3	187.81
19	HRG	566.08	2.53	placed	HSA3	187.87
19	KNG1	574.04	2.72	frame	HSA3	187.92
19	HRASLS	639.37	4.74	frame	HSA3	194.44
19	UMNe098	666.86	1.48	frame		
19	TKY372	677.6	0.38	placed	HSA3	195.3
19	HES1	681.06	1.48	frame	HSA3	195.34
19	IL1RAP	716.18	4.56	frame	HSA3	191.71
19	TKY679	750.75	2.03	frame		
19	PARP15	781.61	1.92	frame	HSA3	123.82
19	CASR	791.69	0.35	placed	HSA3	123.39
19	TKY686	791.69	0.35	placed	HSA3	124.5

19	SNX4	801.24	1.92	frame	HSA3	126.65
19	UMPS	801.24	1.92	frame_identical	HSA3	125.93
19	COR044	801.24	1.92	frame_identical		
19	TKY730	809.9	0.13	placed	HSA3	125.4
19	TKY1132	829.19	2.06	placed	HSA3	125.2
19	HMS08	865.11	0.21	placed	HSA3	118.7
19	UMNe083	873.41	5.97	frame	HSA3	119.4
19	ASB25	877.74	2.24	placed	HSA3	116.9
19	ATP6V1A	890.76	5.97	frame	HSA3	114.95
19	COR092	898.47	1.51	placed	HSA3	112.9
19	CCDC80	906.18	4.27	frame	HSA3	113.81
19	ZuBeEq9	929.37	0.12	placed	HSA3	112.5
19	TKY817	947.97	4.51	placed		
19	CH241- 100N17_T7	955.68	1.06	placed	HSA3	108.6
19	UMNe500	963.12	3.91	frame	HSA3	110.9
19	TKY009	970.04	2.52	placed		
19	ASB11	973.39	2.82	placed	HSA3	113.7
19	UMNe592	991.99	1.68	placed	HSA3	113.9
19	ABHD10	1018.17	3.91	frame	HSA3	113.18
19	DCBLD2	1039.14	2.2	frame	HSA3	100.00
19	TBC1D23	1045.89	0.19	placed	HSA3	101.46
19	FILIP1L	1056.36	2.2	frame	HSA3	101.03
19	TKY1038	1067.47	2.44	placed	HSA3	101.8
19	CPOX	1071.3	2.87	frame	HSA3	99.78
19	ZBTB11	1074.99	2.47	placed	HSA3	102.85
19	AHT055	1086.1	1.35	frame		
19	UMNe590	1101.58	1.35	frame		
19	PROS1	1188.09	0.75	frame	HSA3	95.07
19	UMNe324	1194.85	2.5	placed		
19	TKY783	1202.04	0.75	frame		
19	SCHIP1	---	[p-terminal - AHT041]	binned	HSA3	160.47
19	LEX073	---	[LEX035 - KNG1]	binned	HSA3	187.4
19	LEX036	---	[TBL1XR1 - ABCF3]	binned	HSA3	179.7
19	ZMAT3	---	[TBL1XR1 - ABCF3]	binned	HSA3	180.22
19	UMNe319	---	[TBL1XR1 - ABCF3]	binned	HSA3	183.4
19	TKY606	---	[TBL1XR1 - ABCF3]	binned		
19	NAALADL2	---	[TKY713 - FXR1]	binned	HSA3	176.06
19	ASB07	---	[MYNN - TKY738]	binned	HSA3	171.6
19	NVHEQ011	---	[UMNe083 - CCDC80]	binned		
19	TKY992	---	[CCDC80 - ABHD10]	binned	HSA3	107.1
19	TKY444	---	[CCDC80 - ABHD10]	binned		

19	UMNe071	---	[HRASLS - HES1]	binned	HSA3	194
19	TKY422	---	[UMNe098 - IL1RAP]	binned	HSA3	195.1
19	IQCG	---	[PARP15 - UMNe083]	binned	HSA3	199.1
19	TKY004	---	[PARP15 - UMNe083]	binned		
19	ZNF148	---	[PARP15 - UMNe083]	binned	HSA3	126.43
19	LAMP3	---	[FXR1 - BCL6]	binned	HSA3	184.32
19	ABCC5	---	[FXR1 - BCL6]	binned	HSA3	185.12
19	TKY538	---	[TKY679 - SNX4]	binned	HSA3	124.1

Horse Chr.	Marker	Map Position (cR)	Placement LOD	Assignment	Human Chr.	Human Mb (Build 36.1)
20	EXOC2	0	7.17	frame	HSA6	0.43
20	UMNe274	14	0.39	placed		
20	WRNIP1	47.76	2.13	placed	HSA6	2.71
20	SERPINB1	51.51	4.44	frame	HSA6	2.78
20	SERPINB9	51.51	4.44	frame_identical	HSA6	2.83
20	CH241-101E21_T7	63.16	4.44	frame	HSA6	3.6
20	CH241-102A12_T7	89.74	4.26	placed	HSA6	5.4
20	NRN1	98.22	1.71	frame	HSA6	5.94
20	UMNe418	111.44	1.71	frame	HSA6	6.5
20	SSR1	131.93	2.09	placed	HSA6	7.23
20	BMP6	141.22	3.36	frame	HSA6	7.67
20	NVHEQ005	168.96	4.08	placed		
20	AHT018	168.96	2.98	placed		
20	EDN1	173.17	1.68	frame	HSA6	12.40
20	TKY1517	173.17	1.68	frame_identical	HSA6	10.5
20	UMNe064	173.17	1.68	frame_identical		
20	TKY1798	177.23	0.87	placed	HSA6	11.4
20	NOL7	193.39	1.68	frame	HSA6	13.72
20	COR029	224.25	3.46	frame	HSA6	13.6
20	TKY912	249.99	3.22	frame		
20	UMNe067	281.05	0.13	placed	HSA6	14.3
20	LEX052	285.11	2.2	frame	HSA6	14.2
20	UMNe119	289.34	1.88	placed	HSA6	14.3
20	GMPR	307.78	4.99	frame	HSA6	16.35
20	LEX064	307.78	4.99	frame_identical		
20	KIF13A	325.4	4.02	frame	HSA6	17.87
20	NUP153	343.9	4.02	frame	HSA6	17.72
20	UMNe304	384.86	3.87	frame		
20	PRL	401.3	3.87	frame	HSA6	22.40
20	TKY3403	401.3	3.87	frame_identical	HSA6	22.1

20	AHT109	411.05	0.13	placed	HSA6	19.4
20	UMNe272	440.26	2.15	frame		
20	CMAH	457.11	2.15	frame	HSA6	25.19
20	SLC17A2	473.96	3.52	frame	HSA6	26.02
20	ABT1	501.7	5.44	frame	HSA6	26.71
20	TRIM27	532.59	5.44	frame	HSA6	28.98
20	UMNe056	563.47	0.22	placed		
20	UMNe094	577.35	0.14	placed		
20	CH241-102G5_SP6	581.99	3.98	frame	HSA6	30.1
20	ELA-A	591.25	2.08	placed	HSA6	29.9
20	TKY694	600.51	2.46	placed	HSA6	31.6
20	CH241-100F12_SP6	600.51	2.45	placed	HSA6	31.6
20	TNF	605.17	2.1	frame	HSA6	31.65
20	MSH5	605.17	2.1	frame_identical	HSA6	31.82
20	UMNe214	605.17	2.1	frame_identical		
20	UM011	609.8	1.25	placed	HSA6	33
20	ELA-DOB	624.51	0.57	placed	HSA6	32.8
20	ELA-DQA	648.2	1.62	frame	HSA6	32.7
20	TKY008	679.89	1.94	placed		
20	ELA-DMA	707.41	1.62	frame	HSA6	33
20	PHF1	738.23	3.31	frame	HSA6	33.49
20	UMNe480	747.06	2.11	placed	HSA6	34
20	TKY2503	756.32	2.85	placed	HSA6	34.5
20	PACSIN1	765.58	5.05	frame	HSA6	34.54
20	CH241-100D3_SP6	809.62	4.67	frame	HSA6	38.5
20	TKY821	814.24	0.37	placed	HSA6	40.3
20	CH241-100D3_T7	829.61	3.93	placed	HSA6	38.3
20	PIM1	839.31	1.78	frame	HSA6	37.25
20	FKBP5	853.19	1.78	frame	HSA6	35.65
20	SRPK1	857.82	2.44	placed	HSA6	35.91
20	UM013	873.29	2.85	frame		
20	TKY273	927.91	0.18	placed	HSA6	46.2
20	RUNX2	938.19	1.23	frame	HSA6	45.40
20	TKY507	947.45	2.62	placed	HSA6	46.2
20	CH241-103M18_T7	952.11	2.33	placed	HSA6	46.3
20	TNFRSF21	961.35	1.23	frame	HSA6	47.31
20	TKY1116	978.96	4.44	frame		
20	CRISP2	991.59	1.18	frame	HSA6	49.77
20	MUT	1003.7	1.18	frame	HSA6	49.51
20	HSP90AB1	1040.91	3.83	frame	HSA6	44.32
20	UMNe456	1065.26	2.17	placed		
20	TKY539	1069.67	2.26	placed		
20	CH241-101H13_SP6	1073.89	1.98	frame	HSA6	41.1
20	TKY547	1082.71	0.34	placed	HSA6	41.5
20	TKY1405	1087.15	3.19	placed	HSA6	41.8
20	CCND3	1095.96	1.98	frame	HSA6	42.01

20	UBR2	1109.84	2.42	placed	HSA6	42.64
20	VEGF	1119.59	1.88	placed	HSA6	43.85
20	TKY925	1119.59	1.88	placed		
20	PRPH2	1129.91	3.78	frame	HSA6	42.77
20	TKY995	1159.17	4.3	frame	HSA6	53.2
20	GSTA1	1178.65	2.2	frame	HSA6	52.76
20	ICK	1178.65	2.2	frame_identical	HSA6	52.97
20	GCLC	1182.87	2.48	placed	HSA6	53.47
20	UMNe428	1192.13	2.2	frame	HSA6	55.6
20	HMS04	1212.74	2.2	frame	HSA6	56.3
20	TKY848	---	[COR029 - LEX052]	binned		
20	AHT111	---	[TNF – ELA- DMA]	binned		
20	ITPR3	---	[ELA-DMA - PACSIN1]	binned	HSA6	33.70
20	TKY1115	---	[PHF1 - CH241- 100D3_SP6]	binned	HSA6	34.7
20	20STS01	---	[TRIM27 - TNF]	binned		
20	UMNe225	---	[CH241- 102G5_SP6 – ELA-DQA]	binned		
20	UMNe065	---	[CH241- 102G5_SP6 – ELA-DQA]	binned	HSA6	31.7
20	BAT3	---	[CH241- 102G5_SP6 – ELA-DQA]	binned	HSA6	31.71
20	HSPA1A	---	[CH241- 102G5_SP6 – ELA-DQA]	binned	HSA6	31.89
20	UMNe170	---	[CH241- 102G5_SP6 – ELA-DQA]	binned	HSA6	33
20	TKY2230	---	[SERPINB1 - NRN1]	binned	HSA6	3.4
20	BPHL	---	[EXOC2 - CH241- 101E21_T7]	binned	HSA6	3.06
20	LEX011	---	[CMAH - ABT1]	binned	HSA6	26
20	C6orf62	---	[UMNe272 - SLC17A2]	binned	HSA6	24.81
20	GPLD1	---	[UMNe272 - SLC17A2]	binned	HSA6	24.54
20	CH241- 101K12_T7	---	[PRL - CMAH]	binned	HSA6	23.7
20	UMNe341	---	[GMPR - NUP153]	binned	HSA6	17.4
20	TKY1040	---	[UMNe304 - UMNe272]	binned		
20	HTG05	---	[BMP6 - NOL7]	binned		

20	UMNe380	---	[BMP6 - NOL7]	binned	HSA6	11.7
20	TFAP2A	---	[BMP6 - NOL7]	binned	HSA6	10.50
20	UMNe301	---	[BMP6 - NOL7]	binned	HSA6	10.3
20	TKY1024	---	[UMNe428 - q-terminal]	binned		
20	CRISP3	---	[TKY1116 - MUT]	binned	HSA6	49.80
20	CH241- 100H23_T7	---	[TKY1116 - MUT]	binned	HSA6	49.1
20	CRISP1	---	[TKY1116 - MUT]	binned	HSA6	49.91
20	UMNe151	---	[TKY1116 - MUT]	binned	HSA6	51.3
20	TKY2258	---	[TKY1116 - MUT]	binned	HSA6	50.7
20	TKY1070	---	[TKY995 - UMNe428]	binned		
20	CLPS	---	[PIM1 - UM013]	binned	HSA6	35.87
20	TREM1	---	[HSP90AB1 - CCND3]	binned	HSA6	41.35
20	UMNe494	---	[MUT - CH241- 101H13_SP6]	binned	HSA6	44.1
20	TKY477	---	[CH241- 101H13_SP6 - PRPH2]	binned	HSA6	42.1
20	KCNK16	---	[PACSN1 - PIM1]	binned	HSA6	39.39
20	TKY666	---	[SLC17A2 - TRIM27]	binned	HSA6	26.4
20	TKY940	---	[SLC17A2 - TRIM27]	binned	HSA6	25.9
20	CH241- 102E20_T7	0	3.01	frame	HSA6	58.6
20	UMNe484	8.33	2.14	placed		
20	COR050	8.33	2.14	placed		
20	CH241- 102I4_SP6	42.08	5.95	frame	HSA6	65.7
20	LEX071/072	56.47	2.39	placed		
20	TKY649	56.47	2.38	placed		
20	COL19A1	59.94	5.95	frame	HSA6	70.63
20	TKY321	63.32	2.39	placed		
20	COL9A1	70.54	0.29	placed	HSA6	70.98
20	NVHEQ021	80.99	6.57	frame		
20	HMS42	108.26	7.28	frame		
20	CH241- 101N2_SP6	---	[p-terminal - CH241- 102I4_SP6]	binned	HSA6	62.7

Horse	Marker	Map	Placement	Assignment	Human	Human
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Chr.		Position (cR)	LOD		Chr.	Mb (Build 36.1)
21	TKY021	0	2.29	placed		
21	AKAP8	13.94	2.08	frame	HSA19	15.33
21	KLF2	29.14	2.08	frame	HSA19	16.30
21	SGCV14	29.14	2.08	frame_identical		
21	SGCV16	39.29	4.35	placed		
21	TKY721	39.29	4.35	placed		
21	SLC27A1	62.18	2.38	frame	HSA19	17.44
21	JAK3	67.59	0.42	placed	HSA19	17.80
21	INSL3	72.69	0.98	placed	HSA19	17.79
21	JUND	77.5	2.38	frame	HSA19	18.25
21	PIK3R2	77.5	2.38	frame_identical	HSA19	18.13
21	LSM4	77.5	2.38	frame_identical	HSA19	18.28
21	FKBP8	91.88	4.52	frame	HSA19	18.50
21	TKY678	106.34	1.16	placed		
21	CCNB1	111.14	4.52	frame	HSA5	68.50
21	UMNe564	111.14	4.52	frame_identical		
21	ERBB2IP	127.27	4.35	frame	HSA5	65.26
21	LOC375449	133.04	2.49	placed	HSA5	65.93
21	FLJ13611	146.42	3.61	frame	HSA5	64.96
21	ADAMTS6	161.01	2.15	placed	HSA5	64.48
21	RFXANK	---	[JUND - CCNB1]	binned	HSA19	19.16
21	GMIP	---	[JUND - CCNB1]	binned	HSA19	19.60
21	GDF1	---	[JUND - CCNB1]	binned	HSA19	18.84
21	EDG4	---	[JUND - CCNB1]	binned	HSA19	19.60
21	COMP	---	[JUND - CCNB1]	binned	HSA19	18.75
21	TSSK6	---	[JUND - CCNB1]	binned	HSA19	19.49
21	CRTC1	---	[FKBP8 - ERBB2IP]	binned	HSA19	18.66
21	SFRS14	---	[FKBP8 - ERBB2IP]	binned	HSA19	18.96
21	21STS02	---	[FKBP8 - ERBB2IP]	binned		
21	TKY806	---	[ERBB2IP - q- terminal]	binned	HSA5	66
21	HTR1A	0	3.44	frame	HSA5	63.29
21	DIMT1L	17.57	3.44	frame	HSA5	61.72
21	ERCC8	22.71	1.14	placed	HSA5	60.21
21	UMNe229	22.71	1.14	placed	HSA5	60.9
21	TKY677	32.75	4.02	placed	HSA5	59.9
21	DEPDC1B	42.72	4.33	placed	HSA5	59.93
21	PLK2	62.2	1.63	frame	HSA5	57.79
21	MIER3	84.23	1.63	frame	HSA5	56.25
21	UMNe539	88.14	0.91	placed		
21	HTG10	116.02	1.8	frame		

21	UMNe147	129.9	2.87	placed	HSA5	54.6
21	HSPB3	129.9	2.38	placed	HSA5	53.79
21	DDX4	138.37	0.2	placed	HSA5	55.07
21	GZMA	142.27	3.42	frame	HSA5	54.43
21	FST	155.47	4.1	frame	HSA5	52.81
21	PELO	174.04	2.5	frame	HSA5	52.12
21	LEX060	183.33	0.24	placed	HSA5	50.7
21	TKY868	201.79	1.66	frame	HSA5	50.7
21	21CA001	223.82	1.66	frame		
21	HCN1	242.41	1.88	placed	HSA5	45.30
21	COR068	256.37	4.96	frame	HSA5	45
21	HMGCS1	265.19	2.66	placed	HSA5	43.33
21	NNT	265.19	2.66	placed	HSA5	43.64
21	FBXO4	269.41	3.35	frame	HSA5	41.96
21	GHR	269.41	3.35	frame_identical	HSA5	42.46
21	PRKAA1	282.61	3.35	frame	HSA5	40.80
21	C6	291.09	1.28	placed	HSA5	41.18
21	TTC33	299.91	2.14	frame	HSA5	40.75
21	C9	313.79	2.14	frame	HSA5	39.32
21	DAB2	313.79	2.14	frame_identical	HSA5	39.41
21	TKY671	313.79	2.14	frame_identical		
21	GDNF	323.54	2.36	placed	HSA5	37.85
21	UMNe139	333.86	4.63	placed	HSA5	38.1
21	EGFLAM	333.86	4.63	placed	HSA5	38.29
21	UMNe206	333.86	4.63	placed	HSA5	38.1
21	IL7R	370.1	0.6	placed	HSA5	35.89
21	PRLR	388.67	3.77	frame	HSA5	35.10
21	BXDC2	404.17	2.35	placed	HSA5	34.95
21	C1QTNF3	413.48	0.87	frame	HSA5	34.05
21	TARS	422.31	1.05	placed	HSA5	33.48
21	C5orf22	426.52	0.87	frame	HSA5	31.57
21	UMNe509	426.52	0.87	frame_identical	HSA5	31.7
21	HTG32	426.52	0.87	frame_identical		
21	NPR3	430.74	1.6	placed	HSA5	32.7
21	SKP2	467.75	0.64	placed	HSA5	36.1
21	TKY824	471.36	1.22	placed		
21	TKY418	---	[p-terminal - D1MT1L]	binned		
21	KIF2A	---	[p-terminal - D1MT1L]	binned	HSA5	61.68
21	PDE4D	---	[D1MT1L - MIER3]	binned	HSA5	58.3
21	UMNe464	---	[PRLR - C5orf22]	binned	HSA5	34.8
21	COR073	---	[FST - TKY868]	binned		
21	PARP8	---	[TKY868 - COR068]	binned	HSA5	50
21	UMNe327	---	[TTC33 - PRLR]	binned		
21	C5orf23	---	[C1QTNF3 - q-terminal]	binned	HSA5	32.82

21	TKY280	---	[C1QTNF3 - q-terminal]	binned		
21	TKY2049	---	[C1QTNF3 - q-terminal]	binned	HSA 5	31.7
21	CDH9	0	2.71	frame	HSA5	26.9
21	LEX031	4.72	0.63	placed		
21	TKY907	9.72	0.3	placed		
21	CDH10	39.48	2.71	frame	HSA5	24.5
21	CDH12	49.42	2.29	placed	HSA5	21.7
21	UMNe603	65.19	6.74	frame		
21	MYO10	89.13	4.01	frame	HSA5	16.7
21	BASP1	94.41	2.44	placed	HSA5	17.2
21	AHT077	99.39	0.14	placed	HSA5	18
21	FBXL7	99.39	0.14	placed	HSA5	15.6
21	TKY296	104.11	4.01	frame		
21	TRIO	118.99	2.2	placed	HSA5	14.2
21	DNAH5	123.97	5.71	frame	HSA5	13.7
21	TKY355	123.97	5.71	frame_identical		
21	LEX037	140.85	2.24	placed	HSA5	12
21	AHT010	140.85	2.24	placed		
21	21STS01	152.07	2.06	frame		
21	TKY709	157.34	2.34	placed		
21	SEMA5A	167.87	2.06	frame	HSA5	9
21	POLS	188.87	2.67	frame	HSA5	6.7
21	TKY623	215.66	0.23	placed		
21	TKY306	219.31	1.41	frame		
21	C5orf38	223.1	0.29	placed	HSA 5	2.81
21	UMNe432	227.03	1.06	placed		
21	SDHA	230.97	1.41	frame	HSA5	0.27
21	AHT078	243.25	1.68	placed	HSA5	0.9
21	TKY520	---	[DNAH5 - SEMA5A]	binned	HSA5	9.9
21	UMNe179	---	[MYO10 - DNAH5]	binned		
21	TKY1018	---	[UMNe603 - TKY296]	binned	HSA5	16
21	ADCY2	---	[SEMA5A - TKY306]	binned	HSA5	7.4

Horse Chr.	Marker	Map Position (cR)	Placement LOD	Assignment	Human Chr.	Human Mb (Build 36.1)
22	TKY1106	0	4.93	frame		
22	XRN2	12.49	2.22	placed	HSA20	21.23
22	NAPB	18.42	4.43	frame	HSA20	23.30
22	C20orf39	30.84	4.43	frame	HSA20	24.40
22	COR001	37.18	1.96	placed		
22	TKY1009	52.21	3.85	placed		
22	HARS2	56.01	4.89	placed	HSA20	18.52
22	SEC23B	59.42	3.95	placed	HSA20	18.44
22	DSTN	62.36	1.99	placed	HSA20	17.50

22	SNRPB2	65.23	3.03	frame	HSA20	16.66
22	C20orf7	84.98	3.03	frame	HSA20	13.71
22	TKY308	84.98	3.03	frame_identical	HSA20	13.3
22	BTBD3	102.36	6.3	placed	HSA20	11.82
22	TKY1158	102.36	6.3	placed		
22	TCF15	109.05	4.67	placed	HSA20	0.53
22	UMNe355	112.39	2.36	placed		
22	JAG1	115.64	5.02	frame	HSA20	10.57
22	PLCB4	125.43	0.58	frame	HSA20	9.02
22	PAK7	125.43	0.58	frame_identical	HSA20	9.47
22	HTG14	139.31	0.58	frame		
22	PLCB1	165.79	2.28	placed	HSA20	8.06
22	TKY345	175.98	1.97	placed	HSA20	8.2
22	HAO1	182.53	3.93	frame	HSA20	7.81
22	AHT110	182.53	3.93	frame_identical		
22	BMP2	192.61	3.63	frame	HSA20	6.70
22	TKY593	192.61	3.63	frame_identical	HSA20	5.8
22	C20orf30	207.41	2.17	frame	HSA20	5.03
22	LEX002	219.82	2.41	placed	HSA20	3.4
22	PRNP	236.51	4.23	frame	HSA20	4.62
22	ATRN	248.5	0.11	placed	HSA20	3.40
22	UMNe215	248.5	0.11	placed		
22	CENPB	256.43	2.35	placed	HSA20	3.71
22	CPXM1	260.11	5.92	frame	HSA20	2.72
22	ITPA	264.4	2.26	placed	HSA20	3.14
22	SNRPB	264.4	2.19	placed	HSA20	2.39
22	TGM3	268.72	0.99	placed	HSA20	2.22
22	SIRPB1	272.86	1.1	placed	HSA20	1.49
22	PDYN	280.23	4.74	placed	HSA20	1.91
22	FKBP1A	290.61	6.74	frame	HSA20	1.30
22	PSMF1	301.82	2.06	placed	HSA20	1.04
22	BCL2L1	319.67	2.93	placed	HSA20	29.72
22	COR022	358.45	4.51	frame	HSA20	29.9
22	TKY2468	362.02	0.3	placed	HSA20	29.9
22	TKY785	382.1	2.23	placed		
22	TM9SF4	389.51	3.58	placed	HSA20	30.18
22	KIF3B	392.96	4.51	frame	HSA20	30.33
22	UMNe105	392.96	4.51	frame_identical		
22	UMNe077	403.02	5.83	frame	HSA20	30.5
22	RALY	413.74	5.83	frame	HSA20	32.05
22	HMS053	425.29	2.55	placed	HSA20	32.3
22	AHCY	428.97	4.48	frame	HSA20	32.33
22	ASIP	428.97	4.48	frame_identical	HSA20	32.31
22	PROCR	436.34	2.23	placed	HSA20	33.22
22	TGIF2	447.81	4.09	frame	HSA20	34.64
22	ITCH	459.36	0.95	placed	HSA20	32.41
22	SRC	462.92	4.09	frame	HSA20	35.41
22	C20orf24	462.92	4.09	frame_identical	HSA20	34.67
22	TKY1315	469.86	0.48	placed	HSA20	33
22	MYL9	501.75	2.57	placed	HSA20	34.60

22	UMNe499	522.15	3.62	placed	HSA20	36.9
22	TKY554	522.15	3.62	placed		
22	SLC32A1	522.15	3.62	placed	HSA20	36.79
22	TKY2105	522.15	3.62	placed	HSA20	36.1
22	TKY1160	522.15	4.79	placed	HSA20	37.9
22	TGM2	522.15	3.62	placed	HSA20	36.19
22	ZHX3	535.89	4.34	frame	HSA20	39.24
22	TOP1	539.05	1.38	placed	HSA20	39.09
22	TKY582	539.05	1.62	placed	HSA20	39.4
22	SGCV01	539.05	2.51	placed	HSA20	38.8
22	PTPRT	545.6	3.48	placed	HSA20	40.13
22	SFRS6	555.73	4.34	frame	HSA20	41.52
22	UMNe490	555.73	4.34	frame_identical	HSA20	41.2
22	UMNe208	562.63	4.88	placed	HSA20	41.9
22	ADA	569.57	4.6	frame	HSA20	42.68
22	SERINC3	572.94	1.47	placed	HSA20	42.56
22	CTSA	579.84	2.25	frame	HSA20	43.95
22	TKY567	590.55	1.79	placed	HSA20	44
22	MMP9	597.68	0.76	frame	HSA20	44.07
22	MATN4	624.92	0.76	frame	HSA20	43.36
22	UMNe183	661.96	2.94	placed	HSA20	45.2
22	TKY572	661.96	2.92	placed	HSA20	45.7
22	EYA2	661.96	2.94	placed	HSA20	44.96
22	DDX27	676.22	3.7	placed	HSA20	47.27
22	COR107	685.64	1.86	placed		
22	ATP9A	693.01	0.5	placed	HSA20	49.65
22	SNAI1	696.57	1.75	frame	HSA20	48.03
22	UMNe537	696.57	1.75	frame_identical		
22	DOK5	703.69	0.11	placed	HSA20	52.53
22	UMNe137	710.81	1.36	placed		
22	TKY498	710.81	1.36	placed	HSA20	51.2
22	CSTF1	718.18	1.75	frame	HSA20	54.40
22	UMNe358	734.11	0.84	placed	HSA20	53
22	UMNe607	759.26	7.26	frame	HSA20	56.5
22	GNAS	771.25	4.7	placed	HSA20	56.85
22	ATP5E	792.15	0.56	placed	HSA20	57.04
22	TH1L	804.07	1.73	frame	HSA20	56.99
22	CDH4	815.55	1.73	frame	HSA20	59.26
22	SGCV19	815.55	1.73	frame_identical		
22	TAF4	822.45	0.21	placed	HSA20	59.98
22	EDN3	843.23	1.26	placed	HSA20	57.31
22	AHT031	855.79	2.39	placed		
22	UMNe441	867.71	2.52	placed		
22	RPS21	871.67	4.31	frame	HSA20	60.40
22	TCFL5	884.64	1.88	frame	HSA20	60.94
22	SOX18	898.21	0.44	placed	HSA20	62.15
22	TKY548	911.25	1.88	frame		
22	TKY695	---	[SRC - SFRS6]	binned		
22	TKY2844	---	[SRC - SFRS6]	binned	HSA20	38.8
22	PLCG1	---	[SRC - SFRS6]	binned	HSA20	39.20

22	MAFB	---	[SRC - SFRS6]	binned	HSA20	38.75
22	SGK2	---	[ZHX3 - ADA]	binned	HSA20	41.62
22	ITGB4BP	---	[RALY - TGIF2]	binned	HSA20	33.33
22	TKY560	---	[TGIF2 - ZHX3]	binned		
22	UMNe466	---	[ADA - MMP9]	binned		
22	YWHAB	---	[ADA - MMP9]	binned	HSA20	42.95
22	EPB41L1	---	[AHCY - SRC]	binned	HSA20	34.16
22	HTG21	---	[AHCY - SRC]	binned		
22	SNTA1	---	[RALY - TGIF2]	binned	HSA20	31.46
22	COR016	---	[SRC - SFRS6]	binned	HSA20	40.1
22	PIGT	---	[ADA - MMP9]	binned	HSA20	43.48
22	PTPN1	---	[MATN4 - CSTF1]	binned	HSA20	48.56
22	ZNFX1	---	[MATN4 - CSTF1]	binned	HSA20	47.30
22	HMS47	---	[MATN4 - CSTF1]	binned	HSA20	50.3
22	ACSS1	---	[NAPB - SNRPB2]	binned	HSA20	24.93
22	RRBP1	---	[C20orf39 - C20orf7]	binned	HSA20	17.54
22	TKY1093	---	[NAPB - SNRPB2]	binned		
22	TKY285	--	[SNRPB2 - JAG1]	binned		
22	HM13	--	[FKBP1A - KIF3B]	binned	HSA20	29.57
22	TKY596	--	[CDH4 - TCFL5]	binned		
22	PSMA7	--	[TH1L - RPS21]	binned	HSA20	60.15
22	ADRM1	--	[CDH4 - TCFL5]	binned	HSA20	60.31
22	22STS01	--	[TCFL5 - q- terminal]	binned		
22	ZGPAT	--	[TCFL5 - q- terminal]	binned	HSA20	61.81

Horse Chr.	Marker	Map Position (cR)	Placement LOD	Assignment	Human Chr.	Human Mb (Build 36.1)
23	CH241-115F18_T7	0	8.16	frame	HSA9	41.5
23	CTSL1	23.75	7.73	frame	HSA9	89.53
23	DAPK1	38.43	2.27	frame	HSA9	89.30
23	FBP1	38.43	2.27	frame_identical	HSA9	96.41
23	COR060/055	38.43	2.27	frame_identical		
23	UM019	44.48	2.84	placed	HSA9	86.8
23	GAS1	50.68	2.27	frame	HSA9	88.75
23	AHT039	70.66	1.84	frame		
23	TKY1122	80.05	1.84	frame		
23	TKY2433	95.59	0.26	placed	HSA9	83.2
23	AGTPBP1	118.25	2.62	frame	HSA9	87.35
23	TLE4	164	5.2	frame	HSA9	81.38
23	AHT072	185.19	2.14	frame	HSA9	78.5
23	TKY2485	192.73	0.26	placed	HSA9	78.8
23	TKY568	196.37	2.14	frame		
23	VHL121	215.2	2.16	frame		
23	CH241-2L11_SP6	234.04	2.16	frame		
23	CH241-42I2_SP6	253.58	4.02	frame		

23	TMC1	273.9	1.38	frame	HSA9	74.33
23	UMNe357	282	0.42	placed	HSA9	71.9
23	UMNe51	282	0.42	placed	HSA9	71.9
23	ALDH1A1	290.44	2.05	placed	HSA9	74.71
23	AHT117	300.15	1.38	frame		
23	ASB39	356.33	0.65	frame	HSA9	69.6
23	TKY301	368.49	0.64	placed	HSA9	69.4
23	TJP2	376.93	0.65	frame	HSA9	70.98
23	TKY947	376.93	0.65	frame_identical	HSA9	68.2
23	UMNe473	381.35	2.47	placed	HSA9	69.1
23	DOCK8	385.76	2.63	placed	HSA9	0.26
23	VLDLR	400.38	2.1	frame	HSA9	2.61
23	RANBP6	420.07	2.1	frame	HSA9	6.00
23	HP13	429.39	3.69	placed		
23	LOC158345	434.01	4.28	frame	HSA9	7.47
23	PTPRD	450.94	3.99	frame	HSA9	8.31
23	UM027	463.09	3.99	frame	HSA9	8.8
23	LEX063	463.09	3.99	frame_identical	HSA9	8.8
23	CH241-92F11_SP6	476.35	4.7	placed		
23	UM022	490.27	0.21	placed	HSA9	12.6
23	TYRP1	494.9	4.09	frame	HSA9	12.68
23	UMNe069	494.9	4.09	frame_identical		
23	TKY2321	508.81	2.33	frame	HSA9	14.1
23	TKY536	508.81	2.33	frame_identical	HSA9	13.9
23	AHT114	522.7	2.33	frame		
23	SNAPC3	544.63	3.19	frame	HSA9	15.41
23	PTCH1	---	[CTSL1 - GAS1]	binned	HSA9	97.25
23	TKY346	---	[TKY568 - CH241- 2L11_SP6]	binned	HSA9	75.8
23	TKY2336	---	[AHT072 - VHL121]	binned	HSA9	82
23	TKY367	---	[VHL121 - CH241- 42I2_SP6]	binned	HSA9	81.7
23	UM018	---	[TYRP1 - AHT114]	binned	HSA9	13.9
23	TKY881	---	[VLDLR - LOC158345]	binned	HSA9	7.9
23	LEX053	0	0	frame		
23	UMNe524	0	0	frame_identical		
23	TKY486	0	0	frame_identical		
23	TKY385	0	0	frame_identical		
23	TKY542	0	3.1	frame	HSA9	23.4
23	TKY441	9.62	0.57	placed	HSA9	23.8
23	CH241-80K19_T7	19.24	2.25	placed	HSA9	24.4
23	PLAA	27.78	2.12	placed	HSA9	26.89
23	LINGO2	36.32	3.5	frame	HSA9	27.94
23	CH241-34H11_T7	36.32	3.5	frame_identical		
23	NVHEQ026	36.32	3.5	frame_identical		
23	UMNe142	45.94	2.07	placed		

23	CH241-32E21_T7	55.56	2.11	placed		
23	UMNe159	55.56	2.11	placed	HSA9	30.8
23	NDUFB6	64.1	3.53	frame	HSA9	32.54
23	AQP7	64.1	3.53	frame_identical	HSA9	33.37
23	TKY339	79.32	0.19	placed		
23	GADD45G	130.18	1.29	frame	HSA9	91.41
23	UMNe560	167.15	1.29	frame		
23	TKY269	---	[TKY542 - NDUFB6]	binned	HSA9	27.3
23	TKY2261	---	[TKY542 - NDUFB6]	binned	HSA9	27.1
23	OPRS1	---	[NDUFB6 - UMNe560]	binned	HSA9	34.62
23	CNTFR	---	[NDUFB6 - UMNe560]	binned	HSA9	34.54
23	SPTLC1	---	[NDUFB6 - UMNe560]	binned	HSA9	93.83
23	SPIN1	---	[NDUFB6 - UMNe560]	binned	HSA9	90.19
23	SGCV04	---	[NDUFB6 - UMNe560]	binned		

Horse Chr.	Marker	Map Position (cR)	Placement LOD	Assignment	Human Chr.	Human Mb (Build 36.1)
24	TKY831	0	3.04	placed		
24	AHT119	33.13	0.28	placed		
24	SIX6	50.9	2.5	frame	HSA14	60.05
24	HIF1A	64.17	2.5	frame	HSA14	61.23
24	TKY524	83.18	5.44	frame	HSA14	62.2
24	SYNE2	102.75	6.17	frame	HSA14	63.39
24	PIGH	130.53	6.72	frame	HSA14	67.13
24	UMNe152	130.53	6.72	frame_identical		
24	AHT071	130.53	6.72	frame_identical	HSA14	65.9
24	COR087	130.53	6.72	frame_identical	HSA14	67.2
24	TKY998	136.79	0.91	placed		
24	SMOC1	171.47	2.92	frame	HSA14	69.42
24	UM012	171.47	2.92	frame_identical	HSA14	69.6
24	LEX042	178.71	1.61	placed		
24	NUMB	198.38	2.92	frame	HSA14	72.81
24	TKY1594	---	[SYNE2 - SMOC1]	binned	HSA14	67.1
24	MED6	---	[PIGH - NUMB]	binned	HSA14	70.12
24	UMNe569	---	[PIGH - NUMB]	binned		
24	SLC8A3	---	[PIGH - NUMB]	binned	HSA14	69.58
24	TMED10	0	2.76	frame	HSA14	74.67
24	AHT032	10.13	2.07	placed	HSA14	75
24	24STS01	13.22	2.76	frame		

24	TKY036	41.64	2.33	frame	HSA14	76.6
24	TKY037	51.46	0.35	placed		
24	TKY756	54.64	1.95	placed		
24	UMNe389	64.84	0.13	placed	HSA14	75.9
24	AHSA1	82.3	2.33	frame	HSA14	76.99
24	AHT004	112.65	5.89	frame		
24	TKY982	151.25	1.67	placed	HSA14	77.9
24	EA2C4	188.15	1.05	frame		
24	TKY357	197.95	1.03	placed	HSA14	81.1
24	SEL1L	201.23	1.05	frame	HSA14	81.01
24	TKY564	223.8	1.88	frame	HSA14	86.5
24	UMNe210	227.24	1.88	placed	HSA14	85.2
24	FLRT2	234.36	1.13	placed	HSA14	85.07
24	TKY849	265.54	2.73	placed		
24	COR061	310.1	1.68	placed	HSA14	91.5
24	TKY307	316	1.62	frame	HSA14	89.2
24	LEX074	318.95	1.73	placed	HSA14	90.2
24	TKY394	318.95	1.62	placed	HSA14	90.1
24	CALM1	348.95	1.62	frame	HSA14	89.93
24	VRK1	414.83	6.65	placed	HSA14	96.33
24	LEX032	452.82	1.77	frame		
24	TKY864	468.56	1.11	placed		
24	SERPINA1	471.52	1.77	frame	HSA14	93.91
24	BDKRB2	487.15	4.92	frame	HSA14	95.74
24	TKY857	507.58	0.76	placed	HSA14	97.6
24	COR024	521.13	4.92	frame	HSA14	98.3
24	TKY1083	530.95	0.92	placed	HSA14	97.3
24	WARS	576.43	6.48	frame	HSA14	99.87
24	24STS02	576.43	6.48	frame_identical		
24	UCDEQ467	579.9	2.94	placed		
24	DIO3	594.23	5.75	frame	HSA14	101.10
24	UMNe533	615.89	3.23	frame		
24	COR025	622.45	1.32	placed		
24	CDC42BPB	632.27	3.23	frame	HSA14	102.47
24	TKY1014	---	[AHT004 - TKY564]	binned	HSA14	78.5
24	TKY782	---	[LEX032 - BDKRB2]	binned	HSA14	93.4
24	TKY631	---	[BDKRB2 - WARS]	binned	HSA14	98.3
Horse Chr.	Marker	Map Position (cR)	Placement LOD	Assignment	Human Chr.	Human Mb (Build 36.1)
25	TKY575	0	1.73	placed		
25	COR080	21.77	0.89	frame		
25	TKY771	35.22	2.41	placed		
25	STX17	38.48	0.89	frame	HSA9	101.71
25	NIPSNAP3A	52.01	1.73	frame	HSA9	106.55
25	UMNe362	55.16	0.28	placed	HSA9	104.6
25	TMEM38B	61.86	2.2	placed	HSA9	107.50

25	UMNe416	82.62	3.12	placed		
25	CTNNAL1	106.65	2.73	frame	HSA9	110.74
25	UMNe525	113.15	0.37	placed	HSA9	109.5
25	TKY302	123.51	2.73	frame	HSA9	109.4
25	TXN	145.07	3.51	frame	HSA9	112.05
25	TKY1096	145.07	3.51	frame_identical	HSA9	110
25	COR018	148.22	2.1	placed	HSA9	110.3
25	TKY018	166.74	4.22	frame		
25	UCDEQ405	174.71	1.3	placed		
25	TKY1104	197.68	3.79	frame		
25	TKY1064	258.78	0.35	placed	HSA9	114.8
25	PAPPA	296.89	4.94	frame	HSA9	117.96
25	ZuBeEq12	329.01	3.86	frame		
25	UMNe339	352.26	1.02	frame		
25	TRAF1	370.78	0.12	placed	HSA9	122.70
25	TLR4	374.22	1.02	frame	HSA9	119.51
25	STOM	374.22	1.02	frame_identical	HSA9	123.14
25	TKY316	384.91	2.34	frame	HSA9	121.9
25	TKY429	396.37	2.34	frame	HSA9	121.9
25	TKY851	421.44	4.08	frame		
25	RABGAP1	440.56	0.8	frame	HSA9	124.74
25	AHT007	458.66	0.8	frame		
25	TKY3347	481.34	2.18	placed	HSA9	123.8
25	GOLGA1	489.26	1.84	placed	HSA9	126.68
25	HSPA5	493.07	2.88	frame	HSA9	127.04
25	UMNe160	515.35	4.04	placed	HSA9	126.1
25	TKY292	537.63	0.47	placed	HSA9	127.1
25	ANGPTL2	551.93	2.51	frame	HSA9	128.89
25	NVHEQ043	558.62	2.91	placed	HSA9	127.4
25	AHT051	569.68	2.51	frame		
25	TKY1065	594.1	0.89	placed		
25	TMEM15	601.34	3.35	frame	HSA9	130.75
25	ABL1	627.42	3.53	frame	HSA9	132.58
25	EXOSC2	627.42	3.53	frame_identical	HSA9	132.56
25	SURF2	650.06	1.06	frame	HSA9	135.21
25	DBH	661.98	1.06	frame	HSA9	135.49
25	TMOD1	--	[COR080 - NIPSNAP3A]	binned	HSA9	99.33
25	UMNe598	--	[AHT007 - ANGPTL2]	binned		

Horse Chr.	Marker	Map Position (cR)	Placement LOD	Assignment	Human Chr.	Human Mb (Build 36.1)
26	CGGBP1	0	2.37	frame	HSA3	88.18
26	HTR1F	0	2.37	frame_identical	HSA3	88.12
26	POU1F1	8.46	2.37	frame	HSA3	87.39
26	UMNe588	26.33	4.8	frame		
26	UMNe444	31.84	2.87	placed		
26	CH241-	34.58	4.8	frame		

	112P17_SP6					
26	GBE1	43.42	2.15	placed	HSA3	81.62
26	CH241-	49.29	4.59	frame	HSA3	81.7
	112C9_SP6					
26	26STS02	49.29	4.59	frame_identical		
26	26STS03	49.29	4.59	frame_identical		
26	GBEms1	52.15	0.22	placed		
26	TKY846	55.06	0.41	placed	HSA3	81.6
26	TKY386	74.75	0.27	placed	HSA3	77.9
26	ROBO2	74.75	0.32	placed	HSA3	77.17
26	CH241-	77.66	4.59	frame		
	114I13_SP6					
26	ROBO1	77.66	4.59	frame_identical	HSA3	78.73
26	UM031	80.52	0.28	placed	HSA3	79.1
26	TKY934	102.95	2.42	placed		
26	USP25	155.08	0.17	placed	HSA21	16.02
26	UMNe66	182.5	2.23	placed	HSA21	15.3
26	CH241-	192.62	4.7	frame		
	111N13_SP6					
26	BTG3	206.46	0.19	placed	HSA21	17.89
26	C21orf34	209.6	4.7	frame	HSA21	16.36
26	CH241-	215.91	3.12	placed	HSA21	18.6
	109H15_T7					
26	CH241-	222.24	4.2	placed	HSA21	18.9
	102G11_SP6					
26	UMNe153	238.74	2.15	placed		
26	TKY502	245.28	0.21	placed	HSA21	20.5
26	UMNe547	248.45	2.07	placed		
26	LOC391271	251.62	3.15	frame	HSA21	20.72
26	TKY275	267.95	2.25	frame		
26	LEX044	267.95	2.25	frame_identical	HSA21	21.8
26	COR071	273.96	0.29	placed		
26	A-17	280.1	2.25	frame		
26	APP	316.46	1.66	frame	HSA21	26.17
26	JAM2	336.63	1.66	frame	HSA21	25.93
26	TKY778	349.27	0.5	placed	HSA21	25.8
26	CH241-	355.4	2.43	frame		
	112M19_T7					
26	ADAMTS5	364.41	4.54	frame	HSA21	27.21
26	USP16	379.22	2.13	frame	HSA21	29.32
26	UMNe127	387.85	2.13	frame		
26	TIAM1	411.56	2.06	frame	HSA21	31.41
26	COR099	438.97	2.06	frame		
26	CH241-	450.69	2.37	placed	HSA21	31
	113E17_SP6					
26	EB2E8	456.44	2.13	placed		
26	UBE3AP2	459.22	2.08	frame	HSA21	31.35
26	OLIG1	476.8	4.64	frame	HSA21	33.36
26	NVHEQ070	482.55	2.85	placed	HSA21	33.8
26	CH241-	488.28	2.35	frame	HSA21	35.3
	115F4_SP6					
26	KCNE2	488.28	2.35	frame_identical	HSA21	34.66

26	UMNe188	488.28	2.35	frame_identical	HSA21	34.5
26	DSCR1	491.13	0.14	placed	HSA21	34.81
26	RUNX1	497.13	1.69	frame	HSA21	35.08
26	IFNGR2	497.13	1.69	frame_identical	HSA21	33.70
26	GART	497.13	1.69	frame_identical	HSA21	33.80
26	TKY1155	513.91	1.11	frame	HSA21	33.4
26	TKY1017	534.66	1.11	frame		
26	TKY794	551.51	1.67	placed	HSA21	36.8
26	MORC3	564.37	0.56	placed	HSA21	36.61
26	CBR1	570.42	2.51	frame	HSA21	36.36
26	KCNJ6	582.97	1.08	frame	HSA21	37.92
26	DYRK1A	598.41	0.91	frame	HSA21	37.66
26	TKY3385	607.37	0.91	frame	HSA21	37.2
26	CH241-100G23_SP6	627.2	2.2	placed	HSA21	38.8
26	ERG	633.51	2.42	placed	HSA21	38.68
26	ETS2	636.56	4.29	frame	HSA21	39.10
26	SH3BGR	649.54	4.29	frame	HSA21	39.74
26	TKY664	659.82	4.56	placed	HSA21	39.9
26	UMNe542	666.64	8.08	frame	HSA21	40.7
26	MX1	684.4	7.88	frame	HSA21	41.72
26	UMNe434	684.4	7.88	frame_identical		
26	CSTB	703.38	2.06	frame	HSA21	44.02
26	S100B	719.06	1.34	frame	HSA21	46.84
26	TKY767	741.93	1.34	frame		
26	SAMSN1	---	[CH241-114I13_SP6 - C21orf34]	binned	HSA21	14.78
26	TKY766	---	[CH241-112C9_SP6 - CH241-111N13_SP6]	binned		
26	UMNe559	---	[UMNe588 - CH241-112C9_SP6]	binned		
26	IL10RB	---	[UBE3AP2 - CH241-115F4_SP6]	binned	HSA21	33.56
26	TKY1233	---	[COR099 - OLIG1]	binned	HSA21	31.4

Horse Chr.	Marker	Map Position (cR)	Placement LOD	Assignment	Human Chr.	Human Mb (Build 36.1)
27	TKY437	0	1.86	frame		
27	VDAC3	26.65	1.86	frame	HSA8	42.37
27	FNTA	36.82	2.58	placed	HSA8	43.03
27	GINS4	46.97	2.03	frame	HSA8	41.51
27	ANK1	52.41	2.23	placed	HSA8	41.63
27	INDO	69.71	2.03	frame	HSA8	39.89
27	COR031	--	[p-terminal - VDAC3]	binned		

27	TKY789	--	[GINS4 - q-terminal]	binned	HSA8	41.7
27	STAR	0	0	frame	HSA8	38.12
27	FGFR1	0	0	frame_identical	HSA8	38.39
27	TKY1137	0	0	frame_identical		
27	TKY764	0	0	frame_identical		
27	ADRB3	0	0	frame_identical	HSA8	37.94
27	ASH2L	0	0	frame_identical	HSA8	38.08
27	ERLIN2	--	[p-terminal - q-terminal]	binned	HSA8	37.71
27	TM2D2	--	[p-terminal - q-terminal]	binned	HSA8	38.97
27	RBM13	0	4.39	frame	HSA8	33.46
27	TKY804	10.39	1.64	placed	HSA8	32.7
27	27STS02	19.67	2.02	frame		
27	UMNe186	33	1.83	frame		
27	UMNe523	50.79	1.83	frame	HSA8	31.4
27	GTF2E2	70.48	2.36	placed	HSA8	30.56
27	TMEM66	73.88	5.49	frame	HSA8	30.04
27	UMNe476	73.88	5.49	frame_identical		
27	UCDEQ005	73.88	5.49	frame_identical		
27	27CA001	84.14	5.49	frame		
27	DLC1	107.07	8.13	frame	HSA8	12.99
27	COR040	112.79	1.91	placed		
27	PDGFRL	143.32	3.85	frame	HSA8	17.48
27	HMS45	146.45	2.39	placed	HSA8	16.7
27	TKY603	146.45	2.39	placed		
27	CH241-34124_SP6	152.57	3.85	frame		
27	TKY3012	161.56	0.27	placed	HSA4	188.8
27	SLC25A4	184.05	1.58	frame	HSA4	186.30
27	PDLIM3	187.05	0.35	placed	HSA4	186.66
27	TKY480	190.1	0.83	placed		
27	F11	190.1	0.83	placed	HSA4	187.42
27	CDKN2AIP	193.23	1.58	frame	HSA4	184.60
27	TKY576	193.23	1.58	frame_identical	HSA4	185.6
27	LEX005	193.23	1.58	frame_identical	HSA4	185
27	TKY288	193.23	1.58	frame_identical	HSA4	185
27	UMNe379	196.36	0.37	placed		
27	UMNe258	202.8	0.42	placed	HSA4	183.6
27	AHT082	206.11	0.77	placed	HSA4	183.6
27	DCTD	240.18	3.44	frame	HSA4	184.05
27	UMNe161	279.18	1.37	placed	HSA4	183.1
27	VHL149	332.34	1.58	placed		
27	TKY612	354.65	3.88	frame	HSA4	180.4
27	AGA	366.04	3.88	frame	HSA4	178.59
27	TKY828	381.17	1.97	frame		
27	ASB5	400.25	1.97	frame		
27	SPAG11B	415.04	1.98	frame	HSA8	7.30
27	TKY1152	443.15	0.42	placed	HSA8	4.7
27	UMNe553	450.01	6.32	frame		

27	MYOM2	491.23	6.32	frame	HSA8	1.98
27	CLN8	494.29	1.15	placed	HSA8	1.70
27	ASB38	---	[UMNe523 - 27CA001]	binned	HSA8	29.6
27	AHT074	---	[DLC1 - CH241-34I24_SP6]	binned		
27	CH241-3I14_T7	---	[PDGFRL - SLC25A4]	binned		
27	TKY315	---	[DLC1 - CH241-34I24_SP6]	binned	HSA8	17.5
27	CH241-84O15_SP6	---	[DLC1 - CH241-34I24_SP6]	binned		
27	CH241-10E15_SP6	---	[DLC1 - CH241-34I24_SP6]	binned		
27	UMNe313	---	[DLC1 - CH241-34I24_SP6]	binned	HSA4	189.7
27	CASP3	---	[CH241-34I24_SP6 - CDKN2AIP]	binned	HSA4	185.79
27	UMNe117	---	[CDKN2AIP - TKY612]	binned		
27	TKY431	---	[SLC25A4 - DCTD]	binned	HSA4	185.7
27	PCM1	---	[DLC1 - CH241-34I24_SP6]	binned	HSA8	17.82
27	NRG1	---	[RBM13 - UMNe186]	binned	HSA8	32.53
27	COR017	---	[SPAG11B - MYOM2]	binned		
27	27STS01	---	[UMNe553 - q-terminal]	binned		

Horse Chr.	Marker	Map Position (cR)	Placement LOD	Assignment	Human Chr.	Human Mb (Build 36.1)
28	TPH2	0	2.05	frame	HSA12	70.62
28	TKY333	42.81	2.92	frame	HSA12	72.8
28	GLIPR1	58.7	2.92	frame	HSA12	74.16
28	CSRP2	65.18	4.83	placed	HSA12	75.78
28	NVHEQ054	71.65	3.9	placed		
28	MYF5	101.37	2.58	frame	HSA12	79.63
28	FLJ21963	105.03	1.77	placed	HSA12	80.00
28	TKY808	127.63	2.58	frame		
28	HTG30	166	1.92	placed		
28	UM003	169.67	1.93	placed	HSA12	82.7
28	KITLG	177.23	5.04	frame	HSA12	87.41
28	LUM	200.15	1.85	placed	HSA12	90.02

28	DCN	206.8	3.9	frame	HSA12	90.06
28	BTG1	210.02	2.03	placed	HSA12	91.06
28	SOCS2	230.8	2.04	frame	HSA12	92.49
28	METAP2	234.04	1.13	placed	HSA12	94.39
28	IKIP	246.4	2.15	placed	HSA12	97.53
28	TKY1153	246.4	2.29	placed	HSA12	95.8
28	TKY768	246.4	2.29	placed	HSA12	96
28	APAF1	249.96	2.04	frame	HSA12	97.56
28	TKY873	268.52	1.33	placed		
28	PMCH	275.12	0.2	placed	HSA12	101.11
28	IGF1	275.12	0.19	placed	HSA12	101.31
28	TKY877	278.3	1.7	frame		
28	UMNe354	281.56	0.41	placed		
28	TKY872	288.41	1.7	frame	HSA12	104.13
28	GLT8D2	303.08	2.03	frame	HSA12	102.91
28	NFYB	303.08	2.03	frame_identical	HSA12	103.03
28	PWP1	314.06	2.37	placed	HSA12	106.60
28	TIMP3	317.59	3.93	frame	HSA22	31.53
28	MCM5	335.39	4.23	frame	HSA22	34.13
28	TST	338.61	2.55	placed	HSA22	35.74
28	TKY493	338.61	2.54	placed		
28	TKY1168	338.61	2.55	placed	HSA22	36.4
28	LGALS1	345.26	2.52	frame	HSA22	36.40
28	DDX17	359.02	2.08	frame	HSA22	37.21
28	ACO2	373.22	2.08	frame	HSA22	40.20
28	CYP2D@	376.75	2.34	placed	HSA22	40.85
28	TKY364	380.39	0.65	placed	HSA22	42.5
28	TKY467	392.2	1.56	frame	HSA22	43.8
28	PPARA	420.03	3.51	frame	HSA22	44.93
28	UMNe345	420.03	3.51	frame_identical		
28	UCDEQ425	430.33	3.51	frame		
28	ARSA	456.24	2.47	frame	HSA22	49.41
28	KRR1	---	[TKY333 - MYF5]	binned	HSA12	74.18
28	TKY1023	---	[SOCS2 - TKY877]	binned	HSA12	97.6
28	UMNe166	---	[GLT8D2 - MCM5]	binned		
28	TKY485	---	[SOCS2 - TKY877]	binned		
28	TKY425	---	[APAF1 - TKY872]	binned	HSA12	104.9
28	TKY515	---	[GLT8D2 - MCM5]	binned		
28	TKY1060	---	[MCM5 - DDX17]	binned		
28	UMNe465	---	[LGALS1 - ACO2]	binned		
28	TKY3400	---	[LGALS1 - ACO2]	binned	HSA22	36.4
28	ATF4	---	[LGALS1 - ACO2]	binned	HSA22	38.25

28	TOMM22	---	[LGALS1 - ACO2]	binned	HSA22	37.41
28	TKY299	---	[MCM5 - DDX17]	binned		
28	TKY1080	---	[ACO2 - PPARA]	binned		

Horse Chr.	Marker	Map Position (cR)	Placement LOD	Assignment	Human Chr.	Human Mb (Build 36.1)
29	LEX018	0	3.61	frame		
29	CREM	35.58	3.61	frame	HSA10	35.46
29	CH241-101F21_SP6	60.09	2.41	frame		
29	UMNe218	74.88	2.41	frame	HSA10	35.1
29	COR082	87.12	4.27	frame	HSA10	34.1
29	COR021	105.62	8.49	frame	HSA10	32.34
29	KIF5B	114.48	4.9	placed	HSA10	32.34
29	ZEB1	135.61	0.19	placed	HSA10	31.65
29	UMNe602	145.92	3.56	placed		
29	ARHGAP12	148.97	8.93	frame	HSA10	32.14
29	SVIL	162.21	8.93	frame	HSA10	29.79
29	BAMBI	178.79	7.33	frame	HSA10	29.01
29	TKY900	196.39	0.7	placed		
29	MPP7	206.94	6.73	frame	HSA10	28.38
29	MASTL	220.62	5.33	frame	HSA10	27.48
29	TKY913	231.82	0.23	placed		
29	ACBD5	246.8	1.19	placed	HSA10	27.53
29	GAD2	259.74	6.28	frame	HSA10	26.55
29	C10orf97	275.92	4.19	frame	HSA10	15.86
29	MLLT10	282.39	1.58	placed	HSA10	21.86
29	TKY1866	293.06	1.11	placed	HSA10	22.8
29	BMI1	296.56	4.19	frame	HSA10	22.65
29	COMMD3	296.56	4.19	frame_identical	HSA10	22.65
29	UMNe253	300.03	0.11	placed		
29	TKY859	331.07	1.63	placed		
29	ARL5B	370.09	4.17	frame	HSA10	18.99
29	VIM	380.09	4.17	frame	HSA10	17.31
29	TKY628	380.09	4.17	frame_identical		
29	CUBN	390.57	0.55	placed	HSA10	16.91
29	OPTN	422.03	0.41	placed	HSA10	13.18
29	FRMD4A	432.21	1.3	placed	HSA10	13.73
29	29STS01	435.4	1.87	frame		
29	COR027	441.79	0.28	placed	HSA10	12.5
29	TKY478	451.67	1.87	frame		
29	SEC61A2	468.82	1.98	frame	HSA10	12.21
29	TKY112	482.92	1.98	frame		
29	TKY819	507.26	4.02	placed	HSA10	10.9
29	TKY989	530.68	1.94	frame		
29	GATA3	541.5	1.94	frame	HSA10	8.14
29	VIASH39	552.69	0.35	placed		

29	TKY325	574.53	4.58	placed		
29	GDI2	574.53	4.58	placed	HSA10	5.85
29	NET1	581.1	3.39	frame	HSA10	5.48
29	AKR1C3	590.97	3.39	frame	HSA10	5.13
29	HP12	594.08	2.19	placed		
29	ASB43	594.08	2.26	placed		
29	WDR37	626.34	5.82	frame	HSA10	1.09
29	PLXDC2	---	[GAD2 - BMI1]	binned	HSA10	20.15
29	TKY332	---	[C10orf97 - ARL5B]	binned		
29	TKY715	---	[C10orf97 - ARL5B]	binned		
29	TKY3085	---	[C10orf97 - ARL5B]	binned	HSA10	24.1
29	ITIH2	---	[TKY989 - NET1]	binned	HSA10	7.79
29	PFKFB3	---	[GATA3 - AKR1C3]	binned	HSA10	6.28

Horse Chr.	Marker	Map Position (cR)	Placement LOD	Assignment	Human Chr.	Human Mb (Build 36.1)
30	ADSS	0	4.5	frame	HSA1	242.64
30	HNRPU	15.51	0.26	placed	HSA1	243.08
30	LEX025	43.47	4.5	frame	HSA1	239.3
30	TKY897	66.44	3.07	placed		
30	FH	73.76	6.9	frame	HSA1	239.73
30	CDC42BPA	92.77	5.36	frame	HSA1	225.25
30	PSEN2	92.77	5.36	frame_identical	HSA1	225.13
30	HTG27	96.4	2.13	placed		
30	EPHX1	107.72	2.91	placed	HSA1	224.08
30	SRP9	122.97	5.36	frame	HSA1	224.03
30	LBR	152.14	0.83	frame	HSA1	223.66
30	WDR26	176.06	0.83	frame	HSA1	222.64
30	DEGS1	182.94	1.94	placed	HSA1	222.44
30	UMNe463	225.24	4	frame		
30	HLX1	256.27	0.21	placed	HSA1	219.12
30	HMS18	277.84	0.29	placed	HSA1	217.8
30	DUSP10	281.34	3.38	frame	HSA1	219.94
30	TKY762	281.34	3.38	frame_identical	HSA1	218.2
30	UMNe530	284.74	2.23	placed	HSA1	218.2
30	IARS2	294.79	3.38	frame	HSA1	218.33
30	TAF1A	307.57	3.89	frame	HSA1	220.80
30	ESRRG	352.55	1.01	frame	HSA1	214.74
30	UMNe078	355.63	0.81	placed		
30	GPATCH2	387.44	1.01	frame	HSA1	215.67
30	ZC3H11A	422.65	1.42	frame	HSA1	202.04
30	VHL20	456.29	5.78	frame		
30	RGS1	471.55	2.19	frame	HSA1	190.81

30	TKY658	474.41	0.12	placed	HSA1	189.4
30	RGS2	474.41	0.12	placed	HSA1	191.04
30	CDC73	483.23	1.2	frame	HSA1	191.36
30	AHT023	494.8	1.2	frame		
30	LEX075	538.25	1.99	placed	HSA1	196.1
30	UMNe088	538.25	1.97	placed		
30	UCDEQ455	538.25	1.97	placed		
30	ZNF281	541.01	7.48	frame	HSA1	198.64
30	UMNe340	552.22	2.1	frame	HSA1	197.6
30	TKY1178	552.22	2.1	frame_identical	HSA1	197.6
30	CACNA1S	554.92	0.38	placed	HSA1	199.28
30	TNNI1	560.46	2.1	frame	HSA1	199.64
30	NAV1	571.47	2.41	frame	HSA1	199.88
30	CYB5R1	579.55	2.41	frame	HSA1	201.20
30	TKY1022	594.07	4.92	frame		
30	AHT062	---	[LEX025 - CDC42BPA]	binned		
30	RGS18	---	[VHL20 - CDC73]	binned	HSA1	190.39

Horse Chr.	Marker	Map Position (cR)	Placement LOD	Assignment	Human Chr.	Human Mb (Build 36.1)
31	THBS2	0	4.12	frame	HSA6	169.36
31	SMOC2	18.67	4.29	placed	HSA6	168.58
31	BRP44L	28.16	0.17	placed	HSA6	166.70
31	RNAS22	32.64	0.96	frame	HSA6	167.26
31	TKY668	46.71	0.26	placed	HSA6	161.50
31	TKY368	46.71	0.26	placed	HSA6	163.00
31	MAP3K4	46.71	0.25	placed	HSA6	161.33
31	CH241-100I20_SP6	51.42	0.96	frame		
31	PLG	51.42	0.96	frame_identical	HSA6	161.04
31	UMNe424	82.67	3.16	frame		
31	VIL2	106.07	5.51	frame	HSA6	159.11
31	SNX9	123.11	1.66	placed	HSA6	158.16
31	AHT033	135.89	4.57	placed	HSA6	158.3
31	TKY274	145.33	5.51	frame		
31	COR038	145.33	5.51	frame_identical		
31	TKY755	150.03	0.12	placed	HSA6	157.1
31	WTAP	178	1.74	placed	HSA6	160.07
31	TKY919	216.97	0.13	placed		
31	VIP	222.26	3.53	frame	HSA6	153.11
31	UMNe368	222.26	3.53	frame_identical		
31	VIASH21	222.26	3.53	frame_identical	HSA6	154.1
31	ESR1	243.19	3.53	frame	HSA6	152.17
31	UMNe546	258.9	2.26	placed		
31	KATNA1	264.5	2.77	frame	HSA6	149.96
31	PCMT1	264.5	2.77	frame_identical	HSA6	150.11
31	CH241-102M06_T7	270.53	1.12	placed	HSA6	147.30
31	TKY105	288.65	2.77	frame		

31	TKY278	293.64	1	placed		
31	AHT034	321.45	3.98	frame	HSA6	144.6
31	PLAGL1	331.36	2.6	placed	HSA6	144.30
31	FUCA2	335.83	2.45	frame	HSA6	143.86
31	UMNe181	335.83	2.45	frame_identical		
31	C6orf55	340.1	2.63	placed	HSA6	142.51
31	TKY2302	340.1	2.63	placed	HSA6	143.1
31	CH241-102M02_SP6	349.47	2.99	placed	HSA6	143.80
31	UMNe382	354.2	2.45	frame		
31	UMNe157	368.27	3.02	frame		
31	CH241-100J19_SP6	381.66	3.02	frame	HSA6	139.90
31	PSMB1	---	[p-terminal - RNASET2]	binned	HSA6	170.69
31	CH241-100B15_SP6	---	[ESR1 - TKY105]	binned		
31	CH241-101A08_SP6	---	[TKY274 - ESR1]	binned		
31	HIVEP2	---	[FUCA2 - UMNe157]	binned	HSA6	143.11
31	TKY1011	---	[FUCA2 - UMNe157]	binned	HSA6	143.2

Horse Chr.	Marker	Map Position (cR)	Placement LOD	Assignment	Human Chr.	Human Mb (Build 36.1)
X	CXYorf3	0	0.85	frame	HSAX	1.67
X	PLCXD1	16.06	1.14	placed	HSAX	0.13
X	SLC25A6	21.8	0.85	frame	HSAX	1.47
X	CD99	33.39	1.37	placed	HSAX	2.62
X	XG	36.13	0.12	placed	HSAX	2.68
X	ARSE	38.82	2.21	frame	HSAX	2.86
X	GYG2	41.56	2.74	placed	HSAX	2.76
X	MXRA5	47.06	0.79	frame	HSAX	3.24
X	PRKX	57.99	1.06	placed	HSAX	3.53
X	CH241-144B9_SP6	60.55	0.79	frame		
X	TKY915	71.3	0.38	placed		
X	ZBED1	---	[CXYorf3 - ARSE]	binned	HSAX	2.41
X	ASMT	---	[p-terminal - SLC25A6]	binned	HSAX	1.67
X	CH241-178I7_T7	0	1.44	frame		
X	NLGN4X	34.87	0.71	frame	HSAX	5.82
X	UMNe360	71.15	0.66	placed		
X	HDHD1A	88.02	0.71	frame	HSAX	6.98
X	TKY1103	102.37	1.27	placed	HSAX	7.1
X	STS	113.11	3.69	frame	HSAX	7.15
X	UMNe597	155.94	0.28	placed		
X	AHT099	197.9	1.58	frame		
X	TKY2732	229.9	0.39	placed		
X	KAL1	237.94	0.43	placed	HSAX	8.46

X	TBL1X	242.13	0.25	placed	HSAX	9.39
X	MID1	246.29	1.77	frame	HSAX	10.38
X	SHROOM2	246.29	1.77	frame_identical	HSAX	9.71
X	MSL3L1	250.45	1.94	placed	HSAX	11.69
X	AMELX	250.45	1.94	placed	HSAX	11.22
X	TLR7	254.47	1.43	placed	HSAX	12.80
X	TMSB4X	254.47	2.47	placed	HSAX	12.90
X	GPM6B	254.47	2.47	placed	HSAX	13.70
X	GLRA2	258.31	1.77	frame	HSAX	14.46
X	UMNe202	258.31	1.77	frame_identical	HSAX	14.2
X	TKY836	275.73	0.5	placed	HSAX	13.5
X	PIGA	304.72	2.36	placed	HSAX	15.25
X	TKY1084	313.91	2.32	placed	HSAX	15.8
X	CTPS2	318.71	2.25	frame	HSAX	16.52
X	COR074	328.86	2.57	placed	HSAX	17.4
X	SCML2	328.86	2.57	placed	HSAX	18.17
X	TKY3315	333.67	2.25	frame		
X	SMS	338.48	2.57	placed	HSAX	21.87
X	ACOT9	343.54	1.63	placed	HSAX	23.64
X	PDHA1	343.54	2.58	placed	HSAX	19.27
X	RPS6KA3	343.54	2.58	placed	HSAX	20.08
X	CNKS2	343.54	2.58	placed	HSAX	21.30
X	EIF2S3	372.33	0.13	placed	HSAX	23.98
X	ARX	395.13	2.08	frame	HSAX	24.93
X	SAT1	395.13	2.08	frame_identical	HSAX	23.71
X	LEX028	395.13	2.08	frame_identical	HSAX	24.2
X	UCDEQ502	404.73	1.06	placed		
X	LEX026	419.14	2.61	placed	HSAX	25
X	TKY753	428.25	2.08	frame		
X	UMNe058	448.49	2.08	frame	HSAX	27.7
X	NR0B1	468.79	1.32	frame	HSAX	30.23
X	TKY959	478.94	2.49	placed		
X	DMD	490.43	1.32	frame	HSAX	31.05
X	CLCN4	--	[AHT099 - GLRA2]	binned	HSAX	10.09
X	EGFL6	--	[MID1 - CTPS2]	binned	HSAX	13.50
X	TLR8	--	[MID1 - CTPS2]	binned	HSAX	12.83
X	UMNe511	--	[MID1 - CTPS2]	binned		
X	UMNe437	--	[HDHD1A - AHT099]	binned		
X	UMNe091	--	[HDHD1A - AHT099]	binned		
X	XCA001	--	[CTPS2 - ARX]	binned		
X	PRDX4	--	[CTPS2 - ARX]	binned	HSAX	23.60
X	NVHEQ075	--	[CTPS2 - ARX]	binned	HSAX	23.0
X	RBBP7	--	[CTPS2 -	binned	HSAX	16.77

			ARX]			
X	GPR64	--	[CTPS2 - ARX]	binned	HSAX	18.92
X	PPEF1	--	[CTPS2 - ARX]	binned	HSAX	18.62
X	UMNe522	--	[UMNe058 - DMD]	binned		
X	GK	--	[UMNe058 - DMD]	binned	HSAX	30.58
X	LEX027	--	[UMNe058 - DMD]	binned		
X	UCDEQ428	--	[AHT099 - GLRA2]	binned		
X	TKY270	0	0.56	placed		
X	UMNe386	10.34	2.19	placed		
X	OTC	51.25	0.65	placed	HSAX	38.10
X	TKY514	91.81	1.72	placed	HSAX	41.7
X	TMEM47	121.2	3.49	frame	HSAX	34.56
X	CRSP2	134.83	2.44	placed	HSAX	40.39
X	SRPX	147.48	1.01	placed	HSAX	37.89
X	DDX3X	159.97	3.49	frame	HSAX	41.08
X	USP9X	159.97	3.49	frame_identical	HSAX	40.87
X	MAOB	178.77	4.1	frame	HSAX	43.51
X	MAOA	178.77	4.1	frame_identical	HSAX	43.40
X	EFHC2	203.74	3.98	frame	HSAX	43.89
X	LEX010	222.53	3.98	frame	HSAX	44.5
X	USP11	245.75	2.77	frame	HSAX	46.98
X	TKY1996	250.65	1.9	placed		
X	AKAP4	250.65	1.91	placed	HSAX	49.84
X	ALDH2ps	250.65	1.91	placed		
X	RBM3	250.65	1.91	placed	HSAX	48.32
X	TIMP1	250.65	1.91	placed	HSAX	47.33
X	WDR45	261.59	1.56	frame	HSAX	48.82
X	TKY1073	292.7	1.6	placed		
X	MAGED1	326.59	2.11	placed	HSAX	51.56
X	TKY1105	338.36	2.01	frame	HSAX	54.8
X	MAGED4	348.15	0.14	placed	HSAX	51.82
X	COR091	361.37	2.01	frame	HSAX	50.9
X	NUDT11	365.41	0.19	placed	HSAX	51.25
X	BMP15	369.62	0.46	placed	HSAX	50.67
X	MAGEH1	373.83	2.27	frame	HSAX	55.50
X	UMNe415	373.83	2.27	frame_identical		
X	TKY1130	373.83	2.27	frame_identical		
X	TKY040	373.83	2.27	frame_identical		
X	JARID1C	378.04	2.71	placed	HSAX	53.24
X	UMNe446	386.83	4.31	frame	HSAX	52.9
X	ASB12	481.33	1.06	placed	HSAX	63.36
X	KIAA1166	481.33	1.06	placed	HSAX	64.05
X	AR	521.87	1.64	frame	HSAX	66.68
X	AHT124	534.52	1.18	placed		
X	PJA1	556.81	1.64	frame	HSAX	68.30
X	TAF1	570.44	0.27	placed	HSAX	70.50

X	GJB1	570.44	0.27	placed	HSAX	70.36
X	PHKA1	576.31	1.93	frame	HSAX	71.72
X	AHT028	576.31	1.93	frame_identical		
X	XIST	588	2.14	placed	HSAX	72.96
X	UMNe402	588	2.14	placed	HSAX	73.4
X	ATP7A	608.37	0.53	frame	HSAX	77.05
X	ITM2A	623.29	0.87	placed	HSAX	78.50
X	P2RY10	623.29	0.87	placed	HSAX	78.09
X	TKY991	623.29	0.87	placed	HSAX	78.6
X	SH3BGRL	630.13	0.53	frame	HSAX	80.34
X	UMNe060	630.13	0.53	frame_identical		
X	HUWE1	---	[COR091 - UMNe446]	binned	HSAX	53.58
X	FGD1	---	[TKY1105 - MAGEH1]	binned	HSAX	54.49
X	ALAS2	---	[TKY1105 - MAGEH1]	binned	HSAX	55.05
X	UMNe350	---	[TKY1105 - MAGEH1]	binned	HSAX	50.3
X	UMNe596	---	[TKY1105 - MAGEH1]	binned		
X	TKY968	---	[PJA1 - ATP7A]	binned	HSAX	71.3
X	EFNB1	---	[AR - PHKA1]	binned	HSAX	67.97
X	EDA2R	---	[UMNe446 - PJA1]	binned	HSAX	65.73
X	HEPH	---	[UMNe446 - PJA1]	binned	HSAX	65.30
X	MSN	---	[UMNe446 - PJA1]	binned	HSAX	64.80
X	UMNe390	---	[TMEM47 - MAOB]	binned	HSAX	42.3
X	UMNe148	---	[TMEM47 - MAOB]	binned		
X	AHT079	---	[TMEM47 - MAOB]	binned		
X	UMNe107	---	[PHKA1 - SH3BGRL]	binned		
X	SGCV31	---	[PHKA1 - SH3BGRL]	binned		
X	POU3F4	0	0.87	frame	HSAX	82.65
X	KLHL4	31.41	0.87	frame	HSAX	86.66
X	UMNe266	31.41	0.87	frame_identical		
X	NAP1L3	59.93	2.13	frame	HSAX	92.81
X	TNMD	81.46	2.13	frame	HSAX	99.73
X	SRPX2	103	2.26	frame	HSAX	99.79
X	RPL36A	117.45	2.43	placed	HSAX	100.53
X	GLA	117.45	2.43	placed	HSAX	100.54
X	MCART6	124.73	2.28	frame	HSAX	103.23
X	TMSL8	124.73	2.28	frame_identical	HSAX	101.66
X	LEX013	124.73	2.28	frame_identical	HSAX	103.5
X	SERPINA7	144.48	3.89	frame	HSAX	105.16

X	CLDN2	150.23	2.36	placed	HSAX	106.05
X	TKY038	167.34	1.7	frame	HSAX	107.1
X	LEX024	178.09	0.36	placed	HSAX	107.2
X	ATG4A	178.09	0.36	placed	HSAX	107.22
X	MID2	178.09	0.36	placed	HSAX	106.96
X	COL4A5	183.84	1.7	frame	HSAX	107.57
X	UMNe376	183.84	1.7	frame_identical		
X	IRS4	183.84	1.7	frame_identical	HSAX	107.86
X	ACSL4	190.01	2.34	placed	HSAX	108.77
X	UMNe375	196.68	2.45	placed	HSAX	111.8
X	PAK3	196.68	2.45	placed	HSAX	110.23
X	AMOT	196.68	2.45	placed	HSAX	111.90
X	DCX	196.68	2.45	placed	HSAX	110.42
X	UM035	196.68	2.45	placed		
X	PLS3	211.13	2.73	frame	HSAX	114.70
X	HTR2C	211.13	2.73	frame_identical	HSAX	113.72
X	AGTR2	211.13	2.73	frame_identical	HSAX	115.22
X	SLC6A14	218.41	2.07	placed	HSAX	115.48
X	CUL4B	234.34	1.54	placed	HSAX	119.54
X	LAMP2	234.34	1.54	placed	HSAX	119.45
X	PGRMC1	242.36	2.73	frame	HSAX	118.25
X	UMNe397	242.36	2.73	frame_identical		
X	KLHL13	242.36	2.73	frame_identical	HSAX	116.92
X	LONRF3	242.36	2.73	frame_identical	HSAX	117.99
X	TKY519	242.36	2.73	frame_identical	HSAX	118.1
X	VHL81	242.36	2.73	frame_identical		
X	TKY039	---	[KLHL4 - TNMD]	binned		
X	DIAPH2	---	[NAP1L3 - SRPX2]	binned	HSAX	95.83
X	CHM	---	[POU3F4 - NAP1L3]	binned	HSAX	85.01
X	ZNF711	---	[POU3F4 - NAP1L3]	binned	HSAX	84.39
X	PABPC5	---	[KLHL4 - TNMD]	binned	HSAX	90.58
X	GPRASP1	---	[SRPX2 - SERPINA7]	binned	HSAX	101.80
X	TKY1135	---	[SRPX2 - SERPINA7]	binned	HSAX	101.9
X	WDR40B	0	2.23	frame	HSAX	125.51
X	UMNe363	0	2.23	frame_identical		
X	GRIA3	0	2.23	frame_identical	HSAX	122.15
X	BIRC4	0	2.23	frame_identical	HSAX	122.82
X	ODZ1	0	2.23	frame_identical	HSAX	123.34
X	UMNe594	0	2.23	frame_identical		
X	ARHGEF6	18.6	2.17	placed	HSAX	135.58
X	UMNe394	18.6	2.17	placed		
X	CD40LG	18.6	2.17	placed	HSAX	135.56
X	RBMX	18.6	2.17	placed	HSAX	135.78
X	ZIC3	18.6	2.17	placed	HSAX	136.48
X	FGF13	18.6	2.17	placed	HSAX	137.54

X	LEX003	18.6	2.17	placed		
X	HPRT1	26.14	2.23	frame	HSAX	133.42
X	UMNe134	26.14	2.23	frame_identical		
X	UMNe492	42.7	2.35	placed	HSAX	147.1
X	FMR1	42.7	2.35	placed	HSAX	146.80
X	UMNe387	42.7	2.35	placed		
X	TMEM185A	51.06	2.26	placed	HSAX	148.49
X	AFF2	51.06	2.26	placed	HSAX	147.39
X	MTM1	58.61	4.19	frame	HSAX	149.49
X	GABRE	58.61	4.19	frame_identical	HSAX	150.87
X	CXorf6	58.61	4.19	frame_identical	HSAX	149.36
X	TKY020	58.61	4.19	frame_identical		
X	CETN2	65.5	2.36	placed	HSAX	151.75
X	RPL10	78.1	2.71	frame	HSAX	153.28
X	OPN1MW	78.1	2.71	frame_identical	HSAX	153.10
X	GDI1	78.1	2.71	frame_identical	HSAX	153.32
X	SYBL1	95.54	2.71	frame	HSAX	154.76
X	CLIC2	95.54	2.71	frame_identical	HSAX	154.16
X	SPRY3	95.54	2.71	frame_identical	HSAX	154.65
X	BGN	---	[MTM1 - SYBL1]	binned	HSAX	152.41
X	G6PD	---	[MTM1 - SYBL1]	binned	HSAX	153.41
X	UMNe483	---	[HPRT1 - RPL10]	binned	HSAX	149.6
X	CD99L2	---	[HPRT1 - RPL10]	binned	HSAX	149.69
X	LDOC1	---	[WDR40B - MTM1]	binned	HSAX	140.10
X	IGSF1	---	[WDR40B - MTM1]	binned	HSAX	130.24
X	LEX022	---	[WDR40B - MTM1]	binned		
X	ZDHHC9	---	[p-terminal - HPRT1]	binned	HSAX	128.77
X	GPC3	---	[WDR40B - MTM1]	binned	HSAX	132.50