

Human Gap (Build 35)	Human	FibreFISH	Chimp	Dog	Mouse	Rat	Chicken	Opossum
Chr3:66115834-66375833	<b>260,000</b>	117,000	260,003	69,629	96,116	95,106	57,573	-
Chr3:195517806- 195537805	<b>20,000</b>	*	26,722	-	21,934	22,605	2,510	6,325

**Supplementary Table 1. Calculation of chromosome 3 euchromatic sequence gap sizes.** The fibre-FISH results were derived by making probes from BAC clones near the gap and subtracting subsequent unique proximal sequence from the original results. (\*) denotes FISH results where subsequent sequence exceeds the original gap estimate. Sizes are in basepairs.

RNA classes	Total Number	Methods*	Number
snRNA	83	H.F.	72
		RFAM	80
Y RNA	46	H.F.	35
		RFAM	45
SnoRNA (C/D box)	21	H.F.	6
		RFAM	4
		snoScan	17
SnoRNA (HA/CA box)	22	H.F.	12
		Fisher	8
		C.M	8
tRNA	13	H.F.	10
		tRNA –Scan	9
SRP RNA	17	H.F.	1
		SRP RNA Scan	16
miRNA	3	H.F.	1
		RFAM	3
mRNA-like ncRNA	481	H.F.-FANTOM	1
		H.F.-FLJ/H-InV	452
		Unigene Filter	28
rRNA	10	H.F.	3
		RFAM	7
telomerase RNA	1	H.F.	3
7SK RNA	3	H.F.	3
snmRNA	2	H.F.	2
scaRNA	1	H.F.	1
<b>Total</b>	713		872 (Redundant)

**Supplementary Table 2. Predicted ncRNA candidates on human chromosome 3.**

\*H.F: Homologues finding with BLAST or sim4 algorithms

U.S.: Human Unigene Screening method

Seq_Name	Method	Start	End	Score	Complementary	Notes
gi 37550867 ref NT_005612.14 Hs3_5769	Blast	181916	182007	86.02	+	Y RNA hY5
gi 37550867 ref NT_005612.14 Hs3_5769	Blast	45798441	45798204	87.45	-	7SK RNA 7SK RNA
gi 37550867 ref NT_005612.14 Hs3_5769	Blast	96855110	96855348	82.85	+	7SK RNA 7SK RNA
gi 37550265 ref NT_029928.11 Hs3_30183	Blast	2543553	2543451	100	-	snRNA U6
gi 37550163 ref NT_022517.16 Hs3_22673	Blast	40728639	40728750	95.54	+	snmRNA snmRNA
gi 37550163 ref NT_022517.16 Hs3_22673	Blast	27605901	27605901	91.96	-	snmRNA snmRNA
gi 37550163 ref NT_022517.16 Hs3_22673	Blast	39375474	39375622	100	+	snoRNA ACA6 snoRNA
gi 37550163 ref NT_022517.16 Hs3_22673	Blast	12821949	12821811	100	-	snoRNA ACA7 snoRNA
gi 37550867 ref NT_005612.14 Hs3_5769	Blast	37693231	37693095	100	-	snoRNA ACA58 snoRNA
gi 37550867 ref NT_005612.14 Hs3_5769	Blast	93000560	93000696	100	+	snoRNA ACA4 snoRNA
gi 37550867 ref NT_005612.14 Hs3_5769	Blast	66728182	66727853	100	-	scaRNA U90
gi 37550163 ref NT_022517.16 Hs3_22673	Blast	39378137	39378290	100	+	snoRNA E2-1 snoRNA
gi 37549731 ref NT_022459.13 Hs3_22615	Blast	6854833	6855018	92.47	+	snRNA U2
gi 37550163 ref NT_022517.16 Hs3_22673	Blast	30285992	30285777	82.95	-	snoRNA u3
gi 37550163 ref NT_022517.16 Hs3_22673	Blast	36935432	36935308	95.2	-	snRNA U6atac
gi 37550867 ref NT_005612.14 Hs3_5769	Blast	75978006	75977409	100	-	telomerase RNA telomerase RNA
gi 37550163 ref NT_022517.16 Hs3_22673	Blast	15720026	15720260	98.72	+	SRP 7SL 7SL
gi 37550163 ref NT_022517.16 Hs3_22673	Blast	36652156	36652485	88.22	+	7SK RNA 7SK RNA
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	10374670	10374741	100	-	tRNA
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	13773887	13773954	100	+	tRNA
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	54811717	54811788	100	-	tRNA
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	54716382	54716463	100	-	tRNA
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	2831947	2832199	100	-	tRNA
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	40219213	40220857	100	+	rRNA
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	2832295	2832420	100	-	rRNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	34177606	34177721	36.81	+	rRNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	57401044	57401149	56.32	+	rRNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	32778675	32778562	53.27	-	rRNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	39924173	39924054	25.81	-	rRNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	40997547	40997438	58.28	-	rRNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	43732250	43732148	29.27	-	rRNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	48805788	48805678	32.17	-	rRNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	9373952	9374101	76.65	+	U1 snRNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	98942654	98942505	56.27	-	U1 snRNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	77207980	77207834	69.99	-	U1 snRNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam/Blast	48634362	48634215	62.43/85.12	-	U1 snRNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam/Blast	32374293	32374441	81.53/85.92	-	U1 snRNA
gi 37549731 ref NT_022459.13 Hs3_22615	Rfam	6320533	6320682	59.92	+	U1 snRNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	56454718	56454866	42.52	+	U2 snRNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	74688144	74688289	56.11	+	U2 snRNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	34289246	34289106	50.6	-	U2 snRNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	76270247	76270374	60.03	+	U4 snRNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	81822425	81822542	53.64	+	U4 snRNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	79009506	79009371	46.34	-	U4 snRNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	27869597	27869469	50.37	-	U4 snRNA
gi 37550163 ref NT_022517.16 Hs3_22673	Rfam	19978299	19978435	57.55	+	U4 snRNA
gi 37550163 ref NT_022517.16 Hs3_22673	Rfam	39937208	39937349	82.23	+	U4 snRNA
gi 37550163 ref NT_022517.16 Hs3_22673	Rfam	42188924	42189049	40.02	+	U4 snRNA
gi 37550265 ref NT_029928.11 Hs3_30183	Rfam	1093929	1093789	29.77	-	U4 snRNA
gi 29789894 ref NT_005535.15 Hs3_5692	Rfam	1083767	1083659	50.67	-	Y RNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	7672520	7672614	35.3	+	Y RNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	7861411	7861510	52.8	+	Y RNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	8169067	8169173	45.76	+	Y RNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	12729890	12729989	31.72	+	Y RNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam/Blast	12902671	12902770	59.21/92.08	+	Y RNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	16941014	16941112	45.03	+	Y RNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam/Blast	26424313	26424412	59.90/91.23	+	Y RNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	31730969	31731074	42.24	+	Y RNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	36032929	36033028	41.81	+	Y RNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	42802205	42802305	42.91	+	Y RNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	58662215	58662325	48.11	+	Y RNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	59820320	59820419	41.81	+	Y RNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam/Blast	63366495	63366586	35.25/91.53	+	Y RNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam/Blast	76457728	76457825	57.42/92.42	+	Y RNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	85310677	85310784	33.85	+	Y RNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	97854083	97854182	46.35	+	Y RNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam/Blast	99837136	99837246	55.05/93.33	+	Y RNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	97854371	97854272	32.47	-	Y RNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam/Blast	90299849	90299739	54.38/87.39	-	Y RNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	83333746	83333639	36.45	-	Y RNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	71335769	71335661	44.97	-	Y RNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam/Blast	55307407	55307297	49.60/97.33	-	Y RNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam/Blast	37128450	37128340	41.80/90.67	-	Y RNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	33416470	33416371	34.88	-	Y RNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	28239297	28239190	33.01	-	Y RNA
gi 37550867 ref NT_005612.14 Hs3_5769	Rfam	7876154	7876052	36.93	-	Y RNA
gi 37549731 ref NT_022459.13 Hs3_22615	Rfam	22175029	22175145	50.26	+	Y RNA
gi 37550163 ref NT_022517.16 Hs3_22673	Rfam	23255263	23255364	56.75	+	Y RNA
gi 37550163 ref NT_022517.16 Hs3_22673	Rfam	37981684	37981783	44.49	+	Y RNA
gi 37550163 ref NT_022517.16 Hs3_22673	Rfam	43439561	43439678	27.94	+	Y RNA

gj37550163 ref NT 022517.16 Hs3 22673	Rfam	45870271	45870380	53.9	+	Y RNA
gj37550163 ref NT 022517.16 Hs3 22673	Rfam	47468165	47468262	31.21	+	Y RNA
gj37550163 ref NT 022517.16 Hs3 22673	Rfam	48255669	48255774	58.63	+	Y RNA
gj37550163 ref NT 022517.16 Hs3 22673	Rfam	49231577	49231682	28.21	+	Y RNA
gj37550163 ref NT 022517.16 Hs3 22673	Rfam	53247006	53247115	40.8	+	Y RNA
gj37550163 ref NT 022517.16 Hs3 22673	Rfam	65911953	65911854	46.06	-	Y RNA
gj37550163 ref NT 022517.16 Hs3 22673	Rfam	47898996	47898892	42.49	-	Y RNA
gj37550163 ref NT 022517.16 Hs3 22673	Rfam	41836179	41836084	43.31	-	Y RNA
gj37550163 ref NT 022517.16 Hs3 22673	Rfam/Blast	38472697	38472598	59.22/92.42	-	Y RNA
gj37550163 ref NT 022517.16 Hs3 22673	Rfam	38092510	38092410	30.8	-	Y RNA
gj37550163 ref NT 022517.16 Hs3 22673	Rfam	37060350	37060251	55.89	-	Y RNA
gj37550163 ref NT 022517.16 Hs3 22673	Rfam/Blast	27529314	27529215	57.89/93.94	-	Y RNA
gj37550163 ref NT 022517.16 Hs3 22673	Rfam	20174331	20174241	31.89	-	Y RNA
gj37550163 ref NT 022517.16 Hs3 22673	Rfam/Blast	5067964	5067865	60.78/85.00	-	Y RNA
gj29789894 ref NT 005535.15 Hs3 5692	Rfam/Blast	879008	879114	133.32/95.33	+	U6 snRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam	191019	191127	86.79	+	U6 snRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam/Blast	5122449	5122554	115.04/90.65	+	U6 snRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam	7166617	7166723	78.9	+	U6 snRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam/Blast	23758198	23758304	98.42/85.98	+	U6 snRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam	48359450	48359551	65.55	+	U6 snRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam	52784418	52784532	106.95	+	U6 snRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam	76362791	76362897	86.82	+	U6 snRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam	81980495	81980607	86.99	+	U6 snRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam	86794003	86794109	82.73	+	U6 snRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam/Blast	87444683	87444789	134.37/100.00	+	U6 snRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam	92984894	92984788	76.48	-	U6 snRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam	84220725	84220618	63.8	-	U6 snRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam	83339066	83338963	82.55	-	U6 snRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam	81610291	81610193	84.15	-	U6 snRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam/Blast	77717298	77717192	94.33/89.72	-	U6 snRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam/Blast	75933239	75933133	105.56/93.46	-	U6 snRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam	59684514	59684409	80.31	-	U6 snRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam/Blast	53209654	53209548	87.76/85.98	-	U6 snRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam/Blast	48117026	48116920	97.29/84.76	-	U6 snRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam	42644179	42644080	72.36	-	U6 snRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam/Blast	37306925	37306819	84.99/86.67	-	U6 snRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam	33455071	33454969	73.91	-	U6 snRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam	31333188	31333087	87.93	-	U6 snRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam	25555933	25555830	88.4	-	U6 snRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam	8969160	8969042	81.72	-	U6 snRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam/Blast	5019074	5018968	121.13/95.33	-	U6 snRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam	2822907	2822808	92.57	-	U6 snRNA
gj37549731 ref NT 022459.13 Hs3 22615	Rfam	4552131	4552233	90.6	+	U6 snRNA
gj37549731 ref NT 022459.13 Hs3 22615	Rfam	10835896	10836015	72.72	+	U6 snRNA
gj37549731 ref NT 022459.13 Hs3 22615	Rfam	21486487	21486381	87.84	-	U6 snRNA
gj37549731 ref NT 022459.13 Hs3 22615	Rfam	11555683	11555580	77.22	-	U6 snRNA
gj37549731 ref NT 022459.13 Hs3 22615	Rfam	6985735	6985628	91.18	-	U6 snRNA
gj37549731 ref NT 022459.13 Hs3 22615	Rfam	50501	50395	106.66	-	U6 snRNA
gj37550163 ref NT 022517.16 Hs3 22673	Rfam	10019236	10019339	68.19	+	U6 snRNA
gj37550163 ref NT 022517.16 Hs3 22673	Rfam	15321260	15321362	86.79	+	U6 snRNA
gj37550163 ref NT 022517.16 Hs3 22673	Rfam	37107443	37107546	74.12	+	U6 snRNA
gj37550163 ref NT 022517.16 Hs3 22673	Rfam	38993089	38993195	93.15	+	U6 snRNA
gj37550163 ref NT 022517.16 Hs3 22673	Rfam	57420525	57420630	104.13	+	U6 snRNA
gj37550163 ref NT 022517.16 Hs3 22673	Rfam	57456913	57457020	79.13	+	U6 snRNA
gj37550163 ref NT 022517.16 Hs3 22673	Rfam	57444433	57444330	69.62	-	U6 snRNA
gj37550163 ref NT 022517.16 Hs3 22673	Rfam	38270995	38270889	97.86	-	U6 snRNA
gj37550163 ref NT 022517.16 Hs3 22673	Rfam	27247139	27247036	66	-	U6 snRNA
gj37550163 ref NT 022517.16 Hs3 22673	Rfam	20489213	20489101	82.51	-	U6 snRNA
gj37550163 ref NT 022517.16 Hs3 22673	Rfam	20250527	20250422	95.62	-	U6 snRNA
gj37550163 ref NT 022517.16 Hs3 22673	Rfam	15414727	15414621	105.39	-	U6 snRNA
gj37550163 ref NT 022517.16 Hs3 22673	Rfam	14512599	14512493	82.84	-	U6 snRNA
gj37550265 ref NT 029928.11 Hs3 30183	Rfam	2241208	2241317	87.63	+	U6 snRNA
gj37550265 ref NT 029928.11 Hs3 30183	Rfam	2341305	2341413	94.63	+	U6 snRNA
gj37550265 ref NT 029928.11 Hs3 30183	Rfam/Blast	1131691	1131585	120.53/100.00	-	U6 snRNA
gj37550265 ref NT 029928.11 Hs3 30183	Rfam	1055563	1055464	82.56	-	U6 snRNA
gj37550265 ref NT 029928.11 Hs3 30183	Rfam	740417	740315	73.56	-	U6 snRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam	5201378	5201439	33.22	+	U7 snRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam	49015204	49015264	40.03	+	U7 snRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam	76373882	76373942	46.18	+	U7 snRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam	69683213	69683151	37.56	-	U7 snRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam	66685363	66685292	36.98	-	U7 snRNA
gj37549731 ref NT 022459.13 Hs3 22615	Rfam	6771648	6771712	38.42	+	U7 snRNA
gj37550163 ref NT 022517.16 Hs3 22673	Rfam	17646459	17646521	34.78	+	U7 snRNA
gj37550163 ref NT 022517.16 Hs3 22673	Rfam	48147411	48147471	42.86	+	U7 snRNA
gj37550163 ref NT 022517.16 Hs3 22673	Rfam	37540330	37540268	34.93	-	U7 snRNA
gj37550163 ref NT 022517.16 Hs3 22673	Rfam	4546584	4546525	29.15	-	U7 snRNA
gj37550265 ref NT 029928.11 Hs3 30183	Rfam	419423	419485	50.46	+	U7 snRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam	89664803	89664934	59.62	+	H/ACA box snoRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam	89666760	89666890	61.93	+	H/ACA box snoRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam	92999270	92999392	83.66	+	H/ACA box snoRNA
gj37550867 ref NT 005612.14 Hs3 5769	Rfam/Blast	93000247	93000378	104.04/100.00	+	H/ACA box snoRNA

gj 37550867 ref NT 005612.14 Hs3 5769	Rfam	86755647	86755783	27.76	+	C/D box snoRNA
gj 37550867 ref NT 005612.14 Hs3 5769	Rfam	60220445	60220309	33.4	-	C/D box snoRNA
gj 37550867 ref NT 005612.14 Hs3 5769	Rfam	66909875	66910006	95.5	+	H/ACA box snoRNA
gj 37550867 ref NT 005612.14 Hs3 5769	Rfam	78984353	78984225	69.15	-	H/ACA box snoRNA
gj 37550867 ref NT 005612.14 Hs3 5769	Rfam	14788558	14788691	93.47	+	H/ACA box snoRNA
gj 37550867 ref NT 005612.14 Hs3 5769	Rfam	17839330	17839260	29.42	-	C/D box snoRNA
gj 37550163 ref NT 022517.16 Hs3 22673	Rfam	37936521	37936594	31.98	+	miRNA
gj 37550163 ref NT 022517.16 Hs3 22673	Rfam	52251793	52251704	38.54	-	miRNA
gj 37550867 ref NT 005612.14 Hs3 5769	Rfam/Blast	66617691	66617771	18.28/100.00	+	miRNA
gj 37550163 ref NT 022517.16 Hs3 22673	Rfam	40205691	40205824	27.06	+	H/ACA box snoRNA
gj 37549731 ref NT 022459.13 Hs3 22615	Rfam	19869054	19869125	27.92	+	C/D box snoRNA
gj 37550867 ref NT 005612.14 Hs3 5769	tRNAscan-SE/Sim4	75985176	75985248	70.70/100	+	tRNA
gj 37550867 ref NT 005612.14 Hs3 5769	tRNAscan-SE	90861253	90861323	34.37	-	tRNA
gj 37550867 ref NT 005612.14 Hs3 5769	tRNAscan-SE	44812217	44812290	23.31	-	tRNA
gj 37550867 ref NT 005612.14 Hs3 5769	tRNAscan-SE/Sim4	38445796	38445867	75.37/100	-	tRNA
gj 37550867 ref NT 005612.14 Hs3 5769	tRNAscan-SE/Sim4	38443098	38443169	76.22/100	-	tRNA
gj 37550867 ref NT 005612.14 Hs3 5769	tRNAscan-SE/Sim4	31908331	31908402	22.67/100	-	tRNA
gj 37550867 ref NT 005612.14 Hs3 5769	tRNAscan-SE/Sim4	13116024	13116095	44.96/100	-	tRNA
gj 37550163 ref NT 022517.16 Hs3 22673	tRNAscan-SE/Sim4	45656083	45656155	61.06/100	-	tRNA
gj 37550163 ref NT 022517.16 Hs3 22673	tRNAscan-SE	17681399	17681465	28.15	-	tRNA
gj 37550867 ref NT 005612.14 Hs3 5769	SRPscan	35805234	35805857	309	+	SRP RNA
gj 37550163 ref NT 022517.16 Hs3 22673	SRPscan	10082419	10083042	318	+	SRP RNA
gj 37550867 ref NT 005612.14 Hs3 5769	SRPscan	20029630	20030253	316	+	SRP RNA
gj 37550163 ref NT 022517.16 Hs3 22673	SRPscan	57918718	57919341	304	-	SRP RNA
gj 29789894 ref NT 005535.15 Hs3 5692	SRPscan	289430	290053	374	-	SRP RNA
gj 37550867 ref NT 005612.14 Hs3 5769	SRPscan	89992372	89992995	370	-	SRP RNA
gj 37550867 ref NT 005612.14 Hs3 5769	SRPscan	43803258	43803881	364	-	SRP RNA
gj 37550163 ref NT 022517.16 Hs3 22673	SRPscan	12388388	12389011	360	-	SRP RNA
gj 37550265 ref NT 029928.11 Hs3 30183	SRPscan	1162058	1162681	342	+	SRP RNA
gj 37550163 ref NT 022517.16 Hs3 22673	SRPscan	60522626	60523249	334	-	SRP RNA
gj 29789894 ref NT 005535.15 Hs3 5692	SRPscan	507177	507800	334	+	SRP RNA
gj 37549731 ref NT 022459.13 Hs3 22615	SRPscan	13662720	13663343	318	+	SRP RNA
gj 37550163 ref NT 022517.16 Hs3 22673	SRPscan	31887970	31888593	314	-	SRP RNA
gj 29789894 ref NT 005535.15 Hs3 5692	SRPscan	1079228	1079851	310	-	SRP RNA
gj 37550163 ref NT 022517.16 Hs3 22673	SRPscan	38386664	38387287	300	-	SRP RNA
gj 37550867 ref NT 005612.14 Hs3 5769	SRPscan	70997893	70998516	549	-	SRP RNA
gj 37550867 ref NT 005612.14 Hs3 5769	fisher	672007	672237	98	+	H/ACA box snoRNA
gj 37550867 ref NT 005612.14 Hs3 5769	fisher	271441	271695	96	+	H/ACA box snoRNA
gj 37550867 ref NT 005612.14 Hs3 5769	fisher	1844243	1844469	98	+	H/ACA box snoRNA
gj 37550867 ref NT 005612.14 Hs3 5769	fisher	786109	786331	98	+	H/ACA box snoRNA
gj 37550867 ref NT 005612.14 Hs3 5769	fisher	269254	269478	98	+	H/ACA box snoRNA
gj 37550867 ref NT 005612.14 Hs3 5769	fisher	985381	985612	98	+	H/ACA box snoRNA
gj 37550867 ref NT 005612.14 Hs3 5769	fisher	1140002	1140206	98	+	H/ACA box snoRNA
gj 37550867 ref NT 005612.14 Hs3 5769	fisher	2369106	2369324	98	+	H/ACA box snoRNA
gj 37550867 ref NT 005612.14 Hs3 5769	snoscan	924061	924175	34.7	-	C/D box snoRNA
gj 37550867 ref NT 005612.14 Hs3 5769	snoscan	41830485	41830599	33.22	-	C/D box snoRNA
gj 37549731 ref NT 022459.13 Hs3 22615	snoscan	2810715	2810829	33.88	-	C/D box snoRNA
gj 37550163 ref NT 022517.16 Hs3 22673	snoscan	33933981	33934095	33.46	-	C/D box snoRNA
gj 37550163 ref NT 022517.16 Hs3 22673	snoscan	33537475	33537589	33.57	-	C/D box snoRNA
gj 37550867 ref NT 005612.14 Hs3 5769	snoscan	49861976	49862079	33.89	-	C/D box snoRNA
gj 37550867 ref NT 005612.14 Hs3 5769	snoscan	74938025	74938131	30.06	-	C/D box snoRNA
gj 37550163 ref NT 022517.16 Hs3 22673	snoscan	47009410	47009526	30.55	-	C/D box snoRNA
gj 37550867 ref NT 005612.14 Hs3 5769	snoscan	69003576	69003680	30.34	-	C/D box snoRNA
gj 37549731 ref NT 022459.13 Hs3 22615	snoscan	21033320	21033424	30.34	-	C/D box snoRNA
gj 37550867 ref NT 005612.14 Hs3 5769	snoscan	33830365	33830485	31.27	-	C/D box snoRNA
gj 37550163 ref NT 022517.16 Hs3 22673	snoscan	3722685	3722805	31.27	-	C/D box snoRNA
gj 37550163 ref NT 022517.16 Hs3 22673	snoscan	24648289	24648392	33.42	-	C/D box snoRNA
gj 37550163 ref NT 022517.16 Hs3 22673	snoscan	64182756	64182860	30.37	-	C/D box snoRNA
gj 37550867 ref NT 005612.14 Hs3 5769	snoscan	83398245	83398349	30.37	-	C/D box snoRNA
gj 37550867 ref NT 005612.14 Hs3 5769	snoscan	87071341	87071445	30.33	-	C/D box snoRNA
gj 37550867 ref NT 005612.14 Hs3 5769	snoscan	61190180	61190280	30.33	-	C/D box snoRNA
gj 37550265 ref NT 029928.11 Hs3 30183	Unigene Screening	( 2524001..2524368 )		94	+	mRNA-like
gj 37550163 ref NT 022517.16 Hs3 22673	Unigene Screening	( 23809538..23810260 )		100	+	mRNA-like
gj 37550867 ref NT 005612.14 Hs3 5769	Unigene Screening	( 58521264..58522031 )		98	-	mRNA-like
gj 37550163 ref NT 022517.16 Hs3 22673	Unigene Screening	( 33571351..33572037 )		100	-	mRNA-like
gj 37550867 ref NT 005612.14 Hs3 5769	Unigene Screening	( 27637430..27638028 )		100	+	mRNA-like
gj 37550265 ref NT 029928.11 Hs3 30183	Unigene Screening	( 2560901..2561612 )		100	+	mRNA-like
gj 37550867 ref NT 005612.14 Hs3 5769	Unigene Screening	( 52272527..52272802, 52272940..52274620 )		93	-	mRNA-like
gj 37550163 ref NT 022517.16 Hs3 22673	Unigene Screening	( 29847004..29847560 )		88	-	mRNA-like
gj 37550867 ref NT 005612.14 Hs3 5769	Unigene Screening	( 37688766..37689426 )		100	+	mRNA-like
gj 37550867 ref NT 005612.14 Hs3 5769	Unigene Screening	17414082..17414193, 17414246..17415072, 17415126..17415435 )		90	+	mRNA-like
gj 37550867 ref NT 005612.14 Hs3 5769	Unigene Screening	( 37669126..37671309 )		100	-	mRNA-like
gj 37550867 ref NT 005612.14 Hs3 5769	Unigene Screening	( 31580528..31581151 )		85	+	mRNA-like
gj 37550867 ref NT 005612.14 Hs3 5769	Unigene Screening	( 100052573..100053070 )		100	+	mRNA-like
gj 37550867 ref NT 005612.14 Hs3 5769	Unigene Screening	( 28062107..28062646 )		100	+	mRNA-like
gj 37550163 ref NT 022517.16 Hs3 22673	Unigene Screening	( 26698009..26698688 )		100	+	mRNA-like
gj 37549731 ref NT 022459.13 Hs3 22615	Unigene Screening	( 4753718..4754333 )		100	+	mRNA-like
gj 37550265 ref NT 029928.11 Hs3 30183	Unigene Screening	( 2558716..2559299 )		84	+	mRNA-like
gj 37550867 ref NT 005612.14 Hs3 5769	Unigene Screening	( 58568468..58569177 )		100	-	mRNA-like

gj37550867 ref NT 005612.14 Hs3 5769	Unigene Screening	( 21005678..21006170, 21015094..21015170 )		100	+	mRNA-like
gj37550265 ref NT 029928.11 Hs3 30183	Unigene Screening	( 2555354..25558660 )		87	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Unigene Screening	( 27638255..27638755 )		100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Unigene Screening	( 21279641..21280425 )		84	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Unigene Screening	( 76303596..76304423 )		100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Unigene Screening	( 46785702..46786620, 46786702..46789225 )		98	+	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Unigene Screening	( 23305655..23306247 )		100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Unigene Screening	( 23850710..23851203 )		100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Unigene Screening	( 45352399..45352433, 62999073..62999805 )		92	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Unigene Screening	( 58528050..58528595 )		100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 36790267..36792274 )		100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 44807741..44807770, 44882345..44884082 )		100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 74275348..74277209 )		100	-	mRNA-like
gj37550265 ref NT 029928.11 Hs3 30183	Sim4	( 1388091..1388341, 1392116..1394125 )		100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 3974020..3975520 )		100	+	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 32452780..32454129 )		100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 20546077..20547789 )		100	-	mRNA-like
gj37549731 ref NT 022459.13 Hs3 22615	Sim4	( 6806111..6807157 )		100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 67396469..67398100 )		100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 81560533..81562154 )		100	+	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 49695864..49697354 )		100	-	mRNA-like
gj37549731 ref NT 022459.13 Hs3 22615	Sim4	( 8006410..8007334 )		100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 57467848..57470029 )		100	+	mRNA-like
gj37550265 ref NT 029928.11 Hs3 30183	Sim4	( 580974..583955 )		100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 42717749..42719705 )		100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 75027256..75030013 )		100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 32234912..32236294 )		100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 45646627..45648346 )		100	+	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 55835468..55837517 )		100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 30679118..30680802 )		100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 78437677..78439253 )		100	+	mRNA-like
gj37550265 ref NT 029928.11 Hs3 30183	Sim4	( 2548281..2549983 )		100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 35381825..35383312 )		100	-	mRNA-like
gj37549731 ref NT 022459.13 Hs3 22615	Sim4	( 7236842..7238605 )		100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 11994671..11996493, 11997624..11998161 )		100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 82020733..82022456 )		100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 17311461..17312921 )		100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 45822560..45824529 )		100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 99884088..99885815 )		100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 48676483..48678137 )		100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 20845404..20846723 )		100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 61711805..61713542 )		100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 3667626..3669842 )		100	+	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 65818889..65820985 )		100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 19945270..19946915 )		100	+	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 41825614..41828184 )		100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 99828662..99831432 )		100	+	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 64648545..64650593 )		100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 85388606..85391026 )		100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 4796501..4798320 )		100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 23420130..23422242 )		100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 643918..646120 )		100	+	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 48363800..48365826 )		100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 20895171..20897083 )		100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 9951657..9954146 )		100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 92001684..92003451 )		100	-	mRNA-like
gj37549731 ref NT 022459.13 Hs3 22615	Sim4	( 5313602..5315811 )		100	-	mRNA-like
gj37549731 ref NT 022459.13 Hs3 22615	Sim4	( 7281644..7283680 )		100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 24436592..24436887, 24439433..24440890 )		100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 29634764..29637401 )		100	+	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 37239250..37241215 )		100	+	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 17177267..17179584 )		100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 91696678..91698590 )		100	-	mRNA-like
gj37549731 ref NT 022459.13 Hs3 22615	Sim4	( 4895459..4897200 )		100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 76353558..76355116 )		100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 43678765..43680414 )		100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 78384963..78386605 )		100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 19932987..19935918 )		100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 85612160..85614155 )		100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 14659690..14661746 )		100	+	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 3824098..3826139 )		100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 64865145..64865193, 64866257..64866414, 64867494..64867578, 64868752..64870465 )		100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 15540846..15542017, 15542883..15544325, 15544340..15544753 )		100	-	mRNA-like

gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	( 87823492..87823691, 87823807..87823875, 87912544..87912829, 87928131..87928238, 87952515..87954176 )	100	+	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	( 2731235..2733480 )	100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	( 15421764..15424123 )	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	( 20978260..20980107 )	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	( 94943929..94945662 )	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	( 14446117..14447777 )	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	( 17445465..17447864 )	100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	( 48709756..48712683 )	100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	( 65855973..65856234, 65864771..65866288 )	100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	( 58816762..58819570 )	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	( 89894911..89897460 )	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	( 20149901..20152112 )	100	-	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	( 23223356..23225970 )	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	( 43696152..43700524 )	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	( 11237536..11238955 )	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	( 15845549..15847174 )	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	( 28263142..28265018 )	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	( 31881584..31883247 )	100	-	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	( 4821616..4821659, 5186245..5186465, 5189260..5191942 )	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	( 78253994..78255913, 92048704..92048791 )	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	( 71362940..71364739, 71370849..71371008 )	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	( 94374872..94376913 )	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	( 37069615..37071403 )	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	( 55558349..55558369, 55730176..55731904 )	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	( 47826903..47829335, 47883138..47883161 )	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	( 31434956..31435139, 31435159..31435499, 33764732..33764754, 33764795..33764817 )	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	( 55914456..55915022, 55941859..55941881 )	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	( 76207360..76209408 )	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	( 35480232..35480257, 38418151..38420341, 38421619..38421936 )	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	( 82632465..82632491, 83233699..83235965 )	100	-	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	( 5248733..5248747, 5313584..5316145, 5316810..5317772 )	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	( 4751868..4751884, 4752897..4752909, 4753067..4753093, 26608273..26609915 )	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	( 29690208..29690233, 29826301..29827895 )	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	( 67665253..67665286, 78001538..78002483, 78002594..78002649, 78002789..78002905, 78023347..78023662, 78023837..78023898 )	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	( 19711704..19712973 )	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	( 39802950..39804259, 40477673..40477703 )	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	( 28634781..28634796, 28634955..28634967, 28635406..28635428, 33903064..33904267 )	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	( 15350707..15350734, 15350837..15350889, 15362246..15364116 )	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	( 28634780..28634796, 28634955..28634967, 28635406..28635430, 58478518..58480722 )	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	( 7779618..7780430, 15544288..15544341, 15545265..15545275, 15545544..15545558, 15547350..15547372 )	100	+	mRNA-like
gi 37550265 ref NT_029928.11 Hs3_30183	Sim4	( 883107..883419, 1505070..1505092, 1505250..1505262 )	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	( 59052333..59054381, 90365958..90365995, 90366260..90366279 )	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	( 25629630..25632692, 25709219..25709249 )	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	( 62876017..62877349 )	100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	( 14109276..14110817 )	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	( 44407993..44408274, 44410990..44412538 )	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	( 14532181..14535105 )	100	+	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	( 4700538..4702387 )	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	( 35960339..35962550, 35962816..35963684 )	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	( 25705534..25705567, 25706275..25708700, 25709219..25709252 )	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	( 12390373..12391120, 12391136..12391923, 33764740..33764753, 33764795..33764817 )	100	+	mRNA-like

gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(45625621..45625655,45791076..45793092 )	100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(33124086..33126035,33764743..33764753,33764795..33764815 )	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(28942316..28944829,35378211..35378246,35378401..35378415 )	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(90410496..90412348 )	100	+	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	(4712164..4714513 )	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(18110952..18114821 )	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(15051586..15053330 )	100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(42882859..42884724 )	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(21876970..21879040 )	100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(63918569..63918778,63918892..63921302 )	100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(61474285..61475977 )	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(8553468..8555580 )	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(25883527..25885539 )	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(6393557..6395720 )	100	+	mRNA-like
gi 37550265 ref NT_029928.11 Hs3_30183	Sim4	(295794..298667 )	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(42943903..42946671,42955531..42955622,42958831..42958902,42962004..42962035 )	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(85838524..85840592 )	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(67289884..67291845 )	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(30358786..30360867 )	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(10813370..10815477 )	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(43335786..43337985 )	100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(23903711..23905829 )	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(83507388..83507443,83534375..83536364 )	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(46822918..46824580 )	100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(12569485..12571279 )	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(97608338..97611616 )	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(66708880..66710657 )	100	-	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	(5895275..5895436,5903379..5903485,5915927..5918350 )	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(49230042..49232450 )	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(85232993..85235244 )	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(84029809..84029942,84108559..84108722,84109510..84112170 )	100	+	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	(10535811..10536884,1061661..1063640 )	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(62960295..62963361,62964042..62964130,63029834..63029960 )	100	-	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	(14315121..14316898 )	100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(4878493..4880384,4882226..4882382,4931244..4931383,4961480..4961646 )	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(89660597..89660893,89665024..89665458,89666958..89667039,89668145..89668571 )	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(31195253..31197278 )	100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(42743951..42745825 )	100	-	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	(14152211..1417399 )	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(49160229..49161909 )	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(76209416..76211317 )	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(40256211..40256757,40256821..40258310,40268320..40268479,40276406..40276562 )	100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(15395885..15396425,15397009..15397094,15397283..15397453,15406466..15406600,15407798..15408146,15408913..15409043 )	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(65731429..65733039 )	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(64593116..64593352,64707479..64707759,64717808..64717864,64775181..64775270,64881825..64883549 )	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(11543391..11545703 )	100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(9786718..9788777,24224520..24224549 )	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(91026513..91028784,93080257..93080275,93080425..93080435 )	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(8154849..8155015,8174352..8174452,8208551..8208887,8210471..8211916 )	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(14038569..14040175,14049871..14050010,14060587..14060704,14061801..14062124 )	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(97480116..97481388,97488199..97488292,97489754..97489791,97491019..97491117,97495034..97495260,97517439..97517495,97528983..97529386,97541578..97541656,97543361..97543483 )	100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(42884505..42886417 )	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(28156108..28158180 )	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(42883623..42886417 )	100	+	mRNA-like
gi 37550265 ref NT_029928.11 Hs3_30183	Sim4	(36683..38426 )	100	+	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	(19814321..19816702 )	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(11018941..11020931 )	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(58869588..58871639 )	100	+	mRNA-like

gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(43225840..43227304,43229868..43231005)	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(85609035..85611123)	100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(35751196..35753643)	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(21877532..21881250)	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(85997812..86000907)	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(58072181..58074895)	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(90022383..90025567)	100	+	mRNA-like
gi 37550265 ref NT_029928.11 Hs3_30183	Sim4	(41316..42277,42339..43582)	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(37248696..37250230)	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(14020034..14022253)	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(30996983..30997480,30998581..30999999)	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(75827071..75829288)	100	-	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	(9248291..9248484,9249924..9252146,9252257..9253255)	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(36395081..36395279,36396746..36398956,36399064..36400059)	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(14180064..14181820,14182384..14182624)	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(45821679..45823995)	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(92562480..92564841)	100	-	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	(9196262..9197714,9220158..9220692)	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(32076571..32077110,32099877..32101332)	100	-	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	(9285067..9285547,9285580..9287120)	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(15122542..15124569)	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(32008751..32010774)	100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(15112043..15112908,15113585..15113944,15113968..15115736)	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(32000580..32001446,32002118..32004250)	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(19216440..19218846)	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(61872291..61874716)	100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(57046360..57048252)	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(59597877..59598333,59598811..59600311)	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(22016393..22018094)	100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(5139000..5141287)	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(36343285..36345411)	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(77924138..77925883)	100	-	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	(15291713..15293337)	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(13462934..13465446)	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(3777444..3780132)	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(74108902..74109030,74116252..74116396,74118809..74119001,74125732..74125850,74128007..74128149,74133511..74133737,74134890..74134982,74135335..74135919)	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(50631432..50632100,50632369..50633491)	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(42594008..42596094)	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(32463814..32466626)	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(29988694..29990176,29990263..29991450)	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(64948668..64950755)	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(48150703..48152388,48157195..48157348)	100	-	mRNA-like
gi 37550265 ref NT_029928.11 Hs3_30183	Sim4	(257912..259869)	100	+	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	(9473801..9476435)	100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(14961450..14963113)	100	+	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	(9280733..9281206,9281230..9282495)	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(32013339..32014602,32014620..32015093)	100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(11553717..11554768,11554830..11555592,11564130..11565091)	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(53243736..53244026,53244431..53245322,53245921..53246970)	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(22021392..22022082,22022166..22023605)	100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(51909910..51911964)	100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(39480931..39483084)	100	+	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	(19812874..19815967)	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(53815368..53817951)	100	-	mRNA-like
gi 37550265 ref NT_029928.11 Hs3_30183	Sim4	(2303345..2306423,2306549..2306688)	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(32665122..32666903)	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(52717511..52719501)	100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(39489353..39491409,39491527..39492157)	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(3682498..3684145,3759409..3759487,3760925..3761006,3764187..3764385,3770598..3770758,3782385..3782559)	100	-	mRNA-like

gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 76300756..76302536 )		100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 25883527..25885838, 25885932..25886331 )		100	-	mRNA-like
gj37549731 ref NT 022459.13 Hs3 22615	Sim4	( 2163979..2166712 )		100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 18739541..18742135 )		100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 24100436..24103439 )		100	-	mRNA-like
gj37549731 ref NT 022459.13 Hs3 22615	Sim4	( 20681813..20684606 )		100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 40279189..40280709 )		100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 49140670..49140892, 49147201..49147264, 49150419..49150642, 49152471..49152649, 49155395..49156530 )		100	+	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 15629071..15631948 )		100	+	mRNA-like
gj37549731 ref NT 022459.13 Hs3 22615	Sim4	( 2775837..2777997 )		100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 48159142..48161387 )		100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 44458856..44461822 )		100	-	mRNA-like
gj37549731 ref NT 022459.13 Hs3 22615	Sim4	( 9266896..9269273, 9269304..9269707 )		100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 32026204..32026600, 32026624..32029019 )		100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 14257293..14258405, 14258420..14259843 )		100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 49958552..49961214 )		100	+	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 24099916..24101234 )		100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 33579237..33580696 )		100	-	mRNA-like
gj37549731 ref NT 022459.13 Hs3 22615	Sim4	( 2863503..2864840 )		100	-	mRNA-like
gj37549731 ref NT 022459.13 Hs3 22615	Sim4	( 2813952..2817046 )		100	-	mRNA-like
gj37549731 ref NT 022459.13 Hs3 22615	Sim4	( 5778833..5779834, 5799879..5799980, 5803705..5804127, 5804528..5804629, 5804821..5805112, 5843922..5844028, 5844187..5844445 )		100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 49344682..49346440 )		100	+	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 49510992..49512887, 49514993..49515132, 49515538..49515618, 49515697..49515783 )		100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 64758167..64758524, 64766809..64766988, 64774344..64774452, 64780907..64781003, 64783118..64784013 )		100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 60486033..60487795 )		100	-	mRNA-like
gj37549731 ref NT 022459.13 Hs3 22615	Sim4	( 9382290..9384303 )		100	-	mRNA-like
gj37549731 ref NT 022459.13 Hs3 22615	Sim4	( 3024954..3026967 )		100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 42907748..42909734 )		100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 24099671..24102310 )		100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 57925005..57927037 )		100	+	mRNA-like
gj37549731 ref NT 022459.13 Hs3 22615	Sim4	( 9418251..9419719, 9419807..9420464 )		100	+	mRNA-like
gj37549731 ref NT 022459.13 Hs3 22615	Sim4	( 14994332..14996086 )		100	+	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 43307558..43309217 )		100	+	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 48897039..48898190, 48898485..48899102 )		100	+	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 14590816..14590907, 15294695..15297522 )		100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 20565828..20565949, 20570046..20570174, 20571161..20571220, 20573342..20573501, 20580689..20580874, 20580960..20581214, 20589787..20589829, 20601416..20601572, 20602389..20602963 )		100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 76663888..76665585 )		100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 54152946..54153057, 54153500..54155955 )		100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 61841495..61842806 )		100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 35356951..35359322 )		100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 29628039..29628885 )		100	+	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 14418044..14418112, 14419508..14419526, 48627070..48628590 )		100	-	mRNA-like
gj37549731 ref NT 022459.13 Hs3 22615	Sim4	( 6052147..6052165, 6118747..6122302 )		100	-	mRNA-like
gj37549731 ref NT 022459.13 Hs3 22615	Sim4	( 7102441..7102460, 7126268..7127298 )		100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 81081042..81082969 )		100	+	mRNA-like
gj37550265 ref NT 029928.11 Hs3 30183	Sim4	( 1478179..1479545 )		100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 57958095..57958113, 65618278..65621085 )		100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 3745646..3752056 )		100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 3745646..3752056 )		100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 7221812..7221832, 9370532..9372181, 9373363..9373510, 9379108..9379174 )		100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 40429459..40429569, 40433580..40434239, 48180482..48180497, 48180589..48180607 )		100	+	mRNA-like
gj37550265 ref NT 029928.11 Hs3 30183	Sim4	( 272834..272851, 1279331..1279361, 1282010..1283052 )		100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 35601958..35603726 )		100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 27526361..27526374, 27526438..27526467, 46719615..46720161, 46720648..46722785 )		100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 56747497..56747521, 56755453..56757439, 56758644..56758719, 56758993..56759391 )		100	-	mRNA-like
gj37550265 ref NT 029928.11 Hs3 30183	Sim4	( 811043..811565 )		100	+	mRNA-like

gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(30900796..30900827,31460267..31465278)	100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(61785920..61788658,61802316..61802339)	100	+	mRNA-like
gi 37550265 ref NT_029928.11 Hs3_30183	Sim4	(2514443..2514575,2527459..2527568,2528631..2528762,2532053..2532268,2533153..2533218,2535376..2535434,2536541..2537070,2545650..2545714,2554968..2555091,2556949..2557072,2557409..2557605,2558450..2558514,2560701..2561386,2561614..2561671,2561765..2561997,2562776..2562970,2574898..2575525)	100	+	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	(5322941..5322962,5422604..5427123)	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(38172607..38172629,38172964..38173010,90196699..90198388)	100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(9217186..9220753)	100	-	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	(2862869..2862911,2863456..2863493,2865529..2865551,8006404..8008340,8010320..8010358)	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(38172608..38172629,38172964..38173010,40038233..40039751)	100	-	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	(18750181..18752484)	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(55110923..55112505,55112526..55113289,55120496..55120751,55292310..55292344)	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(25636768..25641838,25641852..25643650)	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(65506302..65508216)	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(4825808..4828807)	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(28162414..28162452,29640304..29643422)	100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(4825808..4828805)	100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(64592923..64593352,64707479..64709097,64709112..64710739)	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(59693374..59696803)	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(55464534..55464555,55531908..55534433,55535197..55535377,55537821..55537963,55543271..55543360,55546147..55546340,55546454..55546625)	100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(56735853..56739637)	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(69966933..69970105)	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(11592446..11594045,11601383..11602215)	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(27117560..27117589,27354179..27356203)	100	-	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	(6805920..6807157)	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(4752899..4752909,4753069..4753087,71986025..71986452,71999091..71999257,72050260..72050366)	100	-	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	(3723349..3724344,24002024..24002053,24002260..24002285)	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(93050171..93050196,93333893..93334274,93340945..93341008,93352159..93352421)	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(55396970..55396997,55534009..55534433,55535197..55535377,55537821..55537963,55543271..55543360,55546147..55546340,55546454..55546578)	100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(1894423..1894434,1894621..1894643,6754602..6755047)	100	-	mRNA-like
gi 37550265 ref NT_029928.11 Hs3_30183	Sim4	(883132..883417)	100	+	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	(18455029..18455396,21662222..21662412,21662451..21663737)	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(7048493..7048522,43350674..43351228,43351273..43352462,57393225..57393285)	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(56239647..56240210,56240244..56241509,93708498..93708514)	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(42827010..42828642)	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(20748070..20749678)	100	+	mRNA-like
gi 37550893 ref NT_079507.1 Hs3_79572	Sim4	(132019..133626)	100	-	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	(1716706..1717953,2542235..2542277)	100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(12058816..12060102)	100	-	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	(12233660..12235516,13527878..13527967)	100	+	mRNA-like
gi 37550893 ref NT_079507.1 Hs3_79572	Sim4	(130947..132894)	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(98754992..98757278)	100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(70844606..70846685)	100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(1188966..1189021,7700495..7701015,7702551..7702600,7705855..7706084,11619274..11620732)	100	+	mRNA-like
gi 37550265 ref NT_029928.11 Hs3_30183	Sim4	(1327485..1328619)	100	+	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	(5770265..5771859,12067540..12067901)	100	+	mRNA-like

gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 16729577..16731534 )	100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 5122560..5124888 )	100	+	mRNA-like
gj37549731 ref NT 022459.13 Hs3 22615	Sim4	( 11107089..11108989 )	100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 27356675..27358132 )	100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 1868413..1869837, 1877234..1877330, 1882400..1882755, 1894992..1895115, 1896591..1897183 )	100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 79297924..79298926, 79298947..79300747 )	100	-	mRNA-like
gj37550893 ref NT 079507.1 Hs3 79572	Sim4	( 131009..133828 )	100	-	mRNA-like
gj37549731 ref NT 022459.13 Hs3 22615	Sim4	( 674399..675811, 675853..676554, 678542..678820 )	100	+	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 60930224..60931479, 60955615..60955751, 60955772..60956485, 60991317..60991597 )	100	+	mRNA-like
gj37550265 ref NT 029928.11 Hs3 30183	Sim4	( 730775..731596, 733012..733604, 733701..734403, 737066..737212, 738980..739061, 739360..739406 )	100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 5806223..5806317, 7953124..7953613, 7953915..7954578, 7954887..7955048, 7960322..7961025, 7987684..7987960 )	100	+	mRNA-like
gj37550893 ref NT 079507.1 Hs3 79572	Sim4	( 75044..75198, 77372..77448, 93407..93445, 101882..102138, 130459..130911, 130926..132342 )	100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 32052043..32054191, 37172373..37172425, 37172460..37172519, 37172843..37172916 )	100	+	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 15952931..15954285 )	100	+	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 49194447..49195521, 60895592..60895639 )	100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 91322791..91323918 )	100	+	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 52369747..52371751 )	100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 20834303..20836863 )	100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 91699985..91702039 )	100	+	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 12388346..12390917 )	100	+	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 20347425..20349994 )	100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 95097604..95099577 )	100	+	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 44368345..44368418, 44374526..44376531 )	100	+	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 58633622..58636199, 58637955..58638079 )	100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 56676399..56679359 )	100	+	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 40463043..40466333 )	100	+	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 8858877..8861296, 8861351..8861466 )	100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 42355546..42358656 )	100	+	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 50029134..50031802 )	100	+	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 24097376..24099100 )	100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 14261073..14261285, 14265932..14267930 )	100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 42551398..42553312 )	100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 18326884..18329020 )	100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 19421388..19423456 )	100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 9941508..9944223 )	100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 36411061..36414485 )	100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 57647691..57649619 )	100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 35195052..35198293 )	100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 50221841..50224942 )	100	+	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 17177267..17181156 )	100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 33925743..33928890 )	100	-	mRNA-like
gj37550265 ref NT 029928.11 Hs3 30183	Sim4	( 35298..38426 )	100	+	mRNA-like
gj37549731 ref NT 022459.13 Hs3 22615	Sim4	( 9338615..9341417 )	100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 31940583..31943377 )	100	-	mRNA-like
gj37550265 ref NT 029928.11 Hs3 30183	Sim4	( 306362..308004, 308058..308095, 308404..308515, 308549..308739, 308860..308917, 308954..309280 )	100	-	mRNA-like
gj37549731 ref NT 022459.13 Hs3 22615	Sim4	( 9506303..9508653 )	100	+	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 56513586..56513629, 56515222..56515286, 56515945..56515970, 56517238..56517388, 56520060..56520501, 56522970..56523116, 56523326..56523429, 56525689..56527122 )	100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 28776357..28778235 )	100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 57046360..57049170 )	100	-	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 989819..989950, 991052..994618 )	100	+	mRNA-like
gj37550163 ref NT 022517.16 Hs3 22673	Sim4	( 45648277..45653422 )	100	+	mRNA-like
gj37550265 ref NT 029928.11 Hs3 30183	Sim4	( 295794..299300 )	100	-	mRNA-like
gj37549731 ref NT 022459.13 Hs3 22615	Sim4	( 8564228..8564273, 12510253..12512164, 12512797..12512960 )	100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 17855593..17857728 )	100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 26047871..26049473 )	100	-	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 95026152..95028481 )	100	+	mRNA-like
gj37550867 ref NT 005612.14 Hs3 5769	Sim4	( 58479192..58481300 )	100	-	mRNA-like

gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(57065425..57065547, 57275867..57275944, 57277954..57278017, 57279251..57279370, 57291830..57293667)		100	+	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	(9301368..9303694)		100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(34967434..34969280)		100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(77578147..77581971)		100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(43038271..43042166)		100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(41037920..41040073)		100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(48809402..48809853, 48810432..48813426)		100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(5162937..5167037)		100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(44506702..44510507)		100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(41178598..41181477)		100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(48205091..48207016)		100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(78803661..78806662, 78807409..78807531)		100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(37173735..37176935)		100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(40873799..40876279)		100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(26506532..26510587)		100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(9375634..9378572)		100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(94942351..94945662)		100	+	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	(5328258..5330724)		100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(9940401..9944195)		100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(22380798..22380839, 44976192..44979978)		100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(36061047..36061954)		100	-	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	(7288411..7290194)		100	-	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	(7897873..7897906, 7977912..7979232)		100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(35158813..35160164, 50798134..50798157)		100	-	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	(4537171..4537967)		100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(28164511..28164567, 46240416..46241150)		100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(33728911..33729707)		100	+	mRNA-like
gi 37550894 ref NT_079508.1 Hs3_79573	Sim4	(61320..62120)		100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(11591856..11593602)		100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(23222818..23224541)		100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(45791077..45792508)		100	-	mRNA-like
gi 37550265 ref NT_029928.11 Hs3_30183	Sim4	(580974..583095)		100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(52408578..52408607, 63223996..63226048)		100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(52262572..52265960)		100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(31455323..31456562, 31458590..31459572)		100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(52282378..52283222)		100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(52212445..52213993)		100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(47568797..47568891, 47570427..47571759)		100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(24475543..24475947, 24480988..24481467)		100	+	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	(3039136..3039236, 3041007..3041187, 8021301..8022648, 8036121..8036406)		100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(47105072..47105355, 47111094..47111315, 47111461..47112712)		100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(80405892..80407734)		100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(14008076..14010715)		100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(93145482..93147340)		100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(65476338..65478088)		100	-	mRNA-like
gi 37550265 ref NT_029928.11 Hs3_30183	Sim4	(2164056..2165732)		100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(15401391..15401544, 15443713..15444867)		100	-	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	(8616673..8617239, 8621381..8621928, 10343372..10343666)		100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(15197617..15198757)		100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(48371523..48373646)		100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(55731415..55733549)		100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(33530397..33531863)		100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(32921349..32922647)		100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(30153457..30155331)		100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(29475116..29476981, 29477119..29477651)		100	+	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(49865921..49866635)		100	+	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	(7256383..7258066)		100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(20763762..20765265)		100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(47314415..47316155)		100	+	mRNA-like
gi 37550890 ref NT_079506.1 Hs3_79571	Sim4	(119753..120733, 126199..126974)		100	-	mRNA-like
gi 37550163 ref NT_022517.16 Hs3_22673	Sim4	(8558880..8559316)		100	-	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Sim4	(6881187..6881818)		100	+	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	(5724122..5724793)		100	-	mRNA-like
gi 37549731 ref NT_022459.13 Hs3_22615	Sim4	(2256655..2256942, 2261555..2261874)		100	+	mRNA-like
gi 37550867 ref NT_005612.14 Hs3_5769	Blast	31445432	31444937	84.92	-	mRNA-like

**Supplementary Table 3. Comprehensive predicted ncRNA candidates on human chromosome 3**

	<b>5' Breakpoint Region</b>	<b>3' Breakpoint Region</b>
Human Chromosome 3	15,139,113- 15,162,936	131,200,609-131,414,315
Chimpanzee Chromosome 2	15,744,734- 15,775,904	133,265,285-133,472,836
Rhesus Scaffolds	120101:77,129- 77,135	45512:23,420-23,423

**Supplementary Table 4. Inversion breakpoint region coordinates in human (NCBI Build 35), chimpanzee (UCSC panTro1) and Rhesus macaque (HGSC Mmul\_0.1).**

<b>Breakpoint</b>	<b>% Alu</b>	<b>% MIR</b>	<b>% LINE</b>	<b>% LTR</b>	<b>% DNA</b>	<b>% Simple Repeats</b>	<b>% Low Complexity</b>	<b>% Total Repeats</b>	<b>% GC</b>
Rhesus 5'	20.80	5.36	9.19	14.12	3.01	1.20	1.49	55.16	48.90
Rhesus 3'	2.95	4.44	24.02	8.48	2.60	3.87	0.30	46.65	35.31
Human 5'	17.91	5.32	8.27	14.30	1.82	0.48	2.24	50.33	47.19
Human 3'	3.06	4.65	21.22	8.96	7.85	1.28	0.00	47.01	36.57
Average Human	10.60	2.20	20.42	8.29	2.84				41.00

**Supplementary Table 5. Repeat and GC composition as percentages of 10 kbp windows spanning the Rhesus breakpoints and the orthologous human sequence.** Average human composition comes from International Human Genome Sequencing Consortium, 2001.

<b>GENE SYMBOL</b>	<b># PUBMED REF</b>	<b># CANCER LIT</b>	<b>DESCRIPTION</b>
SCLC1	23347	23347	SMALL-CELL CANCER OF THE LUNG
544 TF	20773	2742	TRANSFERRIN
TRH	12420	1401	THYROTROPIN-RELEASING HORMONE
GPX1	10445	1025	GLUTATHIONE PEROXIDASE
ATOD	8116	0	DERMATITIS, ATOPIC
SERPINI1	7734	557	SERINE PROTEASE INHIBITOR, CLADE I, MEMBER 1 (SERPINI1)
MME	6572	1521	MEMBRANE METALLOENDOPEPTIDASE
AGTR1	6496	128	ANGIOTENSIN RECEPTOR 1
488 CP	5723	461	CERULOPLASMIN
RHO	5638	117	RHODOPSIN
CLCN2	3975	199	CHLORIDE CHANNEL 2
BCL6	3842	3708	B-CELL LYMPHOMA 6; BCL6, BCL6/H4FM FUSION GENE, INCLUDED
MLF1	3627	3416	MYELOID LEUKEMIA FACTOR 1
CTNNB1	3524	1737	BETA-CATENIN
CCR5	2663	101	CHEMOKINE, CC MOTIF, RECEPTOR 5, CCR5, AIDS
TGFBR2	2465	763	TRANSFORMING GROWTH FACTOR, BETA RECEPTOR II
EGI3	2312	69	EPILEPSY, JUVENILE ABSENCE
MYL3	2147	60	MYOSIN LIGHT CHAIN 3
THPO	2003	322	THROMBOPOIETIN; THPO,MYELOPROLIFERATIVE LEUKEMIA VIRUS ONCOGENE LIGAND,MEGAKARYOCYTE COLONY-
SLC25A20	1720	37	CARNITINE-ACYLCARNITINE TRANSLOCASE, SOLUTE CARRIER FAMILY 25
BCHE	1651	39	BUTYRYLCHOLINESTERASE
TGFBR2	1517	573	TRANSFORMING GROWTH FACTOR-BETA RECEPTOR, TYPE II
PPARG	1394	263	PEROXISOME PROLIFERATOR-ACTIVATED RECEPTOR-GAMMA, PAX8/PPARG FUSION
DRD3	1393	16	DOPAMINE RECEPTOR D3, SCHIZOPHRENIA SUSEPTIBILITY
TKT	1364	53	TRANSKETOLASE
MYMY1	1364	83	Moyamoya Disease
VHL	1302	1066	VON HIPPEL-LINDAU SYNDROME
HYAL1	1237	146	HYALURONOGLUCOSAMINIDASE 1
MLH1	1059	890	COLON CANCER, FAMILIAL NONPOLYPOSIS, TYPE 2
GP9	1042	53	GLYCOPROTEIN IX, PLATELET
GLB1	1034	43	GANGLIOSIDOSIS, GENERALIZED GM1, TYPE I, BETA-GALACTOSIDASE-1 DEFICIENCY, GLB1 DEFICIENCY, MORQUIO DISEASE, TYPE , MUCOPOLYSACCHARIDOSIS TYPE IV, ELASTIN-BINDING PROTEIN
PROS1	945	106	PROTEIN S, ALPHA
THRB	921	98	THYROID HORMONE RECEPTOR, BETA
SI	702	95	Sucrase-Isomaltase
ZNF9	688	147	ZINC FINGER PROTEIN 9
GHRL	652	40	GHRELIN

ARVD5	637	5	ARRHYTHMOGENIC RIGHT VENTRICULAR DYSPLASIA
CASR	637	77	CALCIUM-SENSING RECEPTOR
XPC	529	461	XERODERMA PIGMENTOSUM, COMPLEMENTATION GROUP C
CCR2	523	32	HIV infection, susceptibility/resistance to
ADIPOQ	500	12	ADIPOSE MOST ABUNDANT GENE TRANSCRIPT 1
CX3CR1	475	48	CHEMOKINE, CX3C MOTIF, RECEPTOR 1
HRG	456	13	HISTIDINE-RICH GLYCOPROTEIN
LPP	456	26	LIM DOMAIN-CONTAINING PREFERRED TRANSLOCATION PARTNER IN LIPOMA, LPP/MLL FUSION, LPP/HMGIC FUSION
SLC2A2	444	53	SOLUTE CARRIER FAMILY 2, GLUCOSE TRANSPORTER, LIVER/ISLET, Diabetes mellitus, noninsulin-dependent; Fanconi-Bickel syndrome
SPG14	435	44	Spastic paraplegia 14, autosomal recessive
TERC	422	215	TELOMERASE RNA COMPONENT
PTHRI	353	49	PARATHYROID HORMONE RECEPTOR 1
BTD	342	7	BIOTINIDASE
MITF	283	66	MICROPHthalmia-ASSOCIATED TRANSCRIPTION FACTOR

**Supplementary Table 6. The most referenced chromosome 3 disease phenotypes and associated genes.**

<b>GENE SYMBOL # PUBMED REF# CANCER LIT DESCRIPTION</b>			
<b>CANCER FUSIONS</b>			
BCL6	3842	3708	B-CELL LYMPHOMA 6; BCL6, BCL6/H4FM FUSION GENE, INCLUDED
PPARG	1394	263	PEROXISOME PROLIFERATOR-ACTIVATED RECEPTOR-GAMMA, PAX8/PPARG FUSION
LPP	456	26	LIM DOMAIN-CONTAINING PREFERRED TRANSLOCATION PARTNER IN LIPOMA, LPP/MLL FUSION, LPP/HMGIC FUSION
EVI1	98	70	ECOTROPIC VIRAL INTEGRATION SITE 1, AML1 in the 3;21 translocations: EVI1, EAP (180474), and MDS1 (600049). TEL--EAP--MDS1--
MDS1	60	39	MDS1/AML1 FUSION GENE, AML1 and EVI1 oncogenic components are required for the cooperation of AML1/MDS1/EVI1 with BCR/ABL
<b>CANCER GENES</b>			
MLF1	3627	3416	MYELOID LEUKEMIA FACTOR 1
CTNNB1	3524	1737	BETA-CATENIN
VHL	1302	1066	VON HIPPEL-LINDAU SYNDROME
MLH1	1059	890	COLON CANCER, FAMILIAL NONPOLYPOSIS, TYPE 2
XPC	529	461	XERODERMA PIGMENTOSUM, COMPLEMENTATION GROUP C
TERC	422	215	TELOMERASE RNA COMPONENT
TP73L	201	100	TUMOR PROTEIN p73-LIKE
THRB	921	98	THYROID HORMONE RECEPTOR, BETA
FANCD2	68	42	FANCONI ANEMIA, COMPLEMENTATION GROUP D2
ATR	137	35	ATAXIA-TELANGIECTASIA AND RAD3-RELATED
PIK3CA	92	27	PHOSPHATIDYLINOSITOL 3-KINASE, CATALYTIC, ALPHA
ARMET	65	17	ARGININE-RICH, MUTATED IN EARLY STAGE TUMORS
TDGF1	18	11	TERATOCARCINOMA-DERIVED GROWTH FACTOR 1
RAB7	217	8	RAS-ASSOCIATED PROTEIN RAB7
DIRC2	6	6	DISRUPTED IN RENAL CARCINOMA 2
<b>MOVEMENT DISORDERS</b>			
EGI3	2312	69	EPILEPSY, JUVENILE ABSENCE
DRD3	1393	16	DOPAMINE RECEPTOR D3, SCHIZOPHRENIA SUSEPTIBILITY
SPG14	435	44	SPASTIC PARAPLEGIA 14, AUTOSOMAL RECESSIVE
DM2	248	0	MYOTONIC MYOPATHY PROXIMAL
SCA7	117	1	SPINOCEREBELLAR ATAXIA 7
HMSNO	33	0	NEUROPATHY, HEREDITARY MOTOR AND SENSORY, OKINAWA TYPE
ETM1	26	0	TREMOR FAMILIAL ESSENTIAL 1
HSN1B	2	0	NEUROPATHY, HEREDITARY SENSORY, TYPE IB
<b>MENTAL DISORDERS</b>			
AUTS3	67	3	AUTISM SUSCEPTIBILITY TO, 3
DMT1	6	0	DEMENTIA, FAMILIAL, NONSPECIFIC
MRT2A	1	0	MENTAL RETARDATION, NONSYNDROMIC, AUTOSOMAL RECESSIVE, 2A
<b>SYNDROMES AND MALFORMATIONS</b>			
VHL	1302	1066	VON HIPPEL-LINDAU SYNDROME
SLC2A2	444	53	SOLUTE CARRIER FAMILY 2, GLUCOSE TRANSPORTER, LIVER/ISLET, Diabetes mellitus, noninsulin-dependent; Fanconi-Bickel syndrome
CCM3	268	104	CEREBRAL CAVERNOUS MALFORMATIONS-3
AOMS1	244	30	ABDOMINAL OBESITY-METABOLIC SYNDROME QUANTITATIVE TRAIT LOCUS 1
MHS4	181	2	MALIGNANT HYPERTHERMIA SUSCEPTIBILITY 4
DYX5	92	1	DYSLEXIA, SPECIFIC 5

BBS3	61	4	BARDET-BIEDL SYNDROME 3
MFS2	59	5	MARFAN SYNDROME, TYPE II
MBS2	34	1	Moebius syndrome-2
HSCRS2	27	2	HIRSCHSPRUNG DISEASE, SHORT SEGMENT, 2
LRS1	24	0	LARSEN SYNDROME, AUTOSOMAL DOMINANT
ACAA1	17	0	Pseudo-Zellweger syndrome
SLSN3	10	4	Senior-Loken syndrome 3
USH3A	7	0	USHER SYNDROME
USH2B	6	0	USHER SYNDROME, TYPE IIB
AGS1	4	0	Aicardi-Goutieres syndrome 1

#### CHEMOKINE RECEPTOR CLUSTER ON 3p

CCR5	5333	203	CHEMOKINE, CC MOTIF, RECEPTOR 5, AIDS - SUSCEPTIBILITY/RESISTENCE TO HIV INFECTION
CCR1	585	34	
CCR3	554	24	
CCR2	523	32	SUSCEPTIBILITY/RESISTENCE TO HIV INFECTION
CX3CR1	475	48	CHEMOKINE, CX3C MOTIF, RECEPTOR 1
CCR4	352	28	
CCR8	133	12	
CCR9	46	5	
XCR1	13	2	
CCRL2	1	0	
CCBP2	1	0	

#### DEVELOPMENTAL GENES AND TRANSCRIPTION FACTORS

TRH	12420	1401	THYROTROPIN-RELEASING HORMONE
CTNNB1	3524	1737	BETA-CATENIN
THRB	921	98	THYROID HORMONE RECEPTOR, BETA
PTHRI	353	49	PARATHYROID HORMONE RECEPTOR 1
MITF	283	66	MICROPHthalmia-ASSOCIATED TRANSCRIPTION FACTOR
SOX2	75	6	SRY-BOX 2
DAZL	62	1	DELETED IN AZOOSPERMIA-LIKE
HESX1	53	0	HOMEODOMAIN GENE EXPRESSED IN ES CELLS
POU1F1	28	1	POU DOMAIN, CLASS 1, TRANSCRIPTION FACTOR 1
FOXL2	28	0	FORKHEAD TRANSCRIPTION FACTOR FOXL2

#### HEARING DISORDERS

DFNA18	4	0	DEAFNESS, AUTOSOMAL DOMINANT NONSYNDROMIC SENSORINEURAL 18
DFNB15	3	0	DEAFNESS AUTOSOMAL RECESSIVE 15
TMIE	2	0	TRANSMEMBRANE INNER EAR-EXPRESSED GENE
DFNA44	1	0	DEAFNESS AUTOSOMAL DOMINANT 44

#### SKIN DISORDERS

ATOD	8116	224	DERMATITIS, ATOPIC
PSORS5	119	15	PSORIASIS SUSCEPTIBILITY 5
ILVASC	1	0	ICHTHYOSIS, LEUKOCYTE VACUOLES, ALOPECIA AND SCLEROSING CHOLANGITIS

#### CARDIAC DISEASES

ARVD5	637	5	ARRHYTHMOGENIC RIGHT VENTRICULAR DYSPLASIA
CMD1E	1	0	CARDIOMYOPATHY, DILATED, 1E

#### DIABETES

SLC2A2	444	53	SOLUTE CARRIER FAMILY 2, GLUCOSE TRANSPORTER, LIVER/ISLET, DIABETES MELLITUS, NONINSULIN DEPENDENT; FANCONI-BICKEL SYNDROME
GLC1C	6	0	GLAUCOMA 1C, PRIMARY OPEN ANGLE

**Supplementary Table 7. The most referenced chromosome 3 disease phenotypes and causative genes sorted by function.**





