

Supplementary Table 1: Chicken Z chromosome predicted genes and human orthologs

ID	NAME	Unigene	Ensembl-Chicken	Chicken Chr	Chicken Beg	Chicken End	Strand	Ensembl-Human	Human Chr	Human Beg	Orthology Gro
1	TCF4			Z	13014	17394		1 ENSG00000196628	18	51040560	A
2	ATP8B1	Gga#S6825579	ENSGALG00000003253	Z	330300	353647		0 ENSG000000081923	18	53464656	A
3	NARS	Gga#S22197061	ENSGALG00000003087	Z	354861	365087		0 ENSG00000134440	18	53418894	A
4	HEMH	Gga#S19183308	ENSGALG00000003066	Z	368798	379356		0 ENSG00000066926	18	53366535	A
5	ONECUT2			Z	397502	412327		1 ENSG000000119547	18	53253915	A
6	ST8SIA3	Gga#S19789285	ENSGALG00000003049	Z	423931	427969		1 ENSG00000177511	18	53170719	A
7	WDR7	Gga#S35713644	ENSGALG00000003019	Z	467783	571672		1 ENSG00000091157	18	52469614	A
8	TXNL1	Gga#S33768431	ENSGALG00000002948	Z	581344	595586		0 ENSG00000091164	18	52421053	A
9	NEDD4L	Gga#S21385972	ENSGALG00000002917	Z	669845	729868		0 ENSG00000049759	18	53862778	A
10	ALPK2	Gga#S21385973	ENSGALG00000002898	Z	756230	783843		1 ENSG00000198796	18	54299459	A
11	MALT1	Gga#S35713641	ENSGALG00000002872	Z	796591	834296		0 ENSG00000172175	18	54489598	A
12	ZNF532	Gga#S21044103	ENSGALG00000002852	Z	852028	878250		0 ENSG00000074657	18	54681041	A
13	SEC11L3	Gga#S18605452	ENSGALG00000002839	Z	887557	892444		0 ENSG00000166562	18	54958105	A
14	RAX	Gga#S19183220	ENSGALG00000013431	Z	909472	910876		1 ENSG00000134438	18	55085247	A
15	CPLX4		ENSGALG00000002817	Z	916265	928729		1 ENSG00000166569	18	55113634	A
16	LMAN1	Gga#S23830855	ENSGALG00000002805	Z	933892	955923		1 ENSG00000074695	18	55148088	A
17	ACAA2	Gga#S22197721	ENSGALG00000002777	Z	973832	985606		0 ENSG00000167315	18	45563873	A
18	LIPG	Gga#S21385980	ENSGALG00000002712	Z	1050384	1057572		1 ENSG00000101670	18	45342425	A
19	OR13J1			Z	1055458	1073157		ENSG00000168828	9	35859260	A
20	RPL17	Gga#S33765682	ENSGALG00000002696	Z	1066621	1072642		0 ENSG00000215472	18	45269794	A
21	C18orf32		ENSGALG00000018565	Z	1071736	1071865		0 ENSG00000177576	18	45262027	A
22	DYM	Gga#S22197716	ENSGALG00000002677	Z	1082467	1221575		0 ENSG00000141627	18	44824170	A
23	SMAD7	Gga#S21388974	ENSGALG00000018639	Z	1251091	1255784		0 ENSG00000101665	18	44700222	A
24	KIAA0427	Gga#S35713638	ENSGALG000000023718	Z	1291621	1343370		1 ENSG00000134030	18	44319425	A
25	ZBTB7C	Gga#S21390332	ENSGALG00000014696	Z	1473518	1482905		0 ENSG00000184828	18	43807746	A
26	SMAD2	Gga#S19551184	ENSGALG00000014697	Z	1512559	1543682		0 ENSG00000175387	18	43613464	A
27	Q2VWA4	Gga#S35713637	ENSGALG00000001867	Z	1712534	1729287		0 ENSG00000215474	18	43011492	A
28	IER3IP1	Gga#S33769616		Z	1742146	1743588		0 ENSG00000134049	18	42935413	A
29	HDHD2	Gga#S21393316	ENSGALG00000001865	Z	1747422	1752346		0 ENSG00000167220	18	42887780	A
30	KATNAL2	Gga#S21393317	ENSGALG00000001851	Z	1754244	1770631		1 ENSG00000167216	18	42780785	A
31	PIAS2	Gga#S22196587	ENSGALG00000001843	Z	1773475	1798385		0 ENSG00000078043	18	42646058	A
32	ST8SIA5	Gga#S19871246	ENSGALG00000001808	Z	1835018	1863877		0 ENSG00000101638	18	42513079	A
33	LOXHD1		ENSGALG00000001787	Z	1888711	1995369		0 ENSG00000167210	18	42310933	A
34	RNF165	Gga#S21393320	ENSGALG00000001766	Z	2031598	2040710		1 ENSG00000141622	18	42168185	A
35	C18orf25	Gga#S21393321	ENSGALG00000001763	Z	2077902	2102792		1 ENSG00000152242	18	42007986	A
36	CCDC5	Gga#S33763497	ENSGALG00000001761	Z	2127364	2136065		1 ENSG00000152240	18	41938323	A
37	ATP5A1	Gga#S33769889	ENSGALG00000014644	Z	2139446	2147186		0 ENSG00000152234	18	41918108	A
38	PSTPIP2	Gga#S35713634	ENSGALG00000001745	Z	2148849	2162986		0 ENSG00000152229	18	41817500	A
39	KIAA1632	Gga#S21393323	ENSGALG00000001732	Z	2164879	2211990		0 ENSG00000152223	18	41681573	A
40	SIGLEC15		ENSGALG00000021416	Z	2217016	2219837		0 ENSG00000197046	18	41659543	A
41	SLC14A2			Z	2239719	2274692		0 ENSG00000132874	18	41448780	A
42	SLC14A1	Gga#S35713632	ENSGALG00000001705	Z	2267294	2277893		1 ENSG00000141469	18	41558147	A
43	SETBP1	Gga#S35713631	ENSGALG00000001677	Z	2693022	2703754		1 ENSG00000152217	18	40514861	A
44	SYT4	Gga#S21397150	ENSGALG00000008893	Z	3292215	3299863		0 ENSG00000132872	18	39101857	A
45	RIT2	Gga#S35713630	ENSGALG00000017593	Z	3353261	3455732		0 ENSG00000152214	18	38577191	A
46	PIK3C3	Gga#S19182635	ENSGALG00000008887	Z	3875564	3942528		1 ENSG00000078142	18	37789197	A
47	BRUNOL4		ENSGALG00000018499	Z	6110732	6122308		0 ENSG00000101489	18	33077828	A
48	A5A2G2	Gga#S35713627	ENSGALG00000002413	Z	6636818	6716710		0 ENSG00000101489	18	33077828	A
49	KIAA1328	Gga#S23831017	ENSGALG00000002419	Z	6809182	6843536		1 ENSG00000150477	18	32663078	A
50	C18orf10	Gga#S21385929	ENSGALG00000002429	Z	6966627	6988931		0 ENSG00000134779	18	32630033	A
51	AQP7P4		ENSGALG00000018534	Z	6992391	6995442		0 ENSG00000176115	9	66961803	A
52	cZorf4	Gga#S21385927	ENSGALG00000017527	Z	7025006	7028689		1 ENSGALG00000017527			B2
53	AQP3	Gga#S21385926	ENSGALG00000002452	Z	7060177	7072863		1 ENSG00000165272	9	33431161	A
54	NOL6	Gga#S18605824	ENSGALG00000014168	Z	7118021	7155958		1 ENSG00000165271	9	33451354	A
55	UBE2R2	Gga#S22196269	ENSGALG00000001668	Z	7167734	7220058		0 ENSG00000107341	9	33807182	A
56	Q6Y2W3	Gga#S35713672	ENSGALG00000013809	Z	7223381	7230115		1 ENSG00000137073	9	33911691	A
57	IFNB	Gga#S22520332	ENSGALG00000005759	Z	7235572	7236234		0 ENSGALG00000005759			B1
58	IFN1A		ENSGALG00000013245	Z	7241179	7241760		0 ENSGALG00000013245			B1

59	UBAP2		ENSGALG00000013809	Z	7282021	7302577	1	ENSG00000137073	9	33911691	A
60	WDR40A	Gga#S23830976	ENSGALG00000005800	Z	7342184	7367710	1	ENSG00000198876	9	34076386	A
61	UBAP1	Gga#S21389972	ENSGALG000000021378	Z	7387534	7401743	0	ENSG00000165006	9	34169011	A
62	C9orf48	Gga#S6731917	ENSGALG00000005806	Z	7410737	7435569	1	ENSG00000186638	9	34242379	A
63	NUDT2	Gga#S18606387	ENSGALG00000005810	Z	7442541	7445953	0	ENSG00000164978	9	34319504	A
64	cZorf2	Gga#S21389979	ENSGALG00000005813	Z	7450248	7464354	1	ENSGALG00000005813			B2
65	KIAA1161	Gga#S21389978	ENSGALG00000005814	Z	7481951	7483921	1	ENSG00000164976	9	34358907	A
66	C9orf24	Gga#S21274402	ENSGALG00000005818	Z	7491114	7495150	1	ENSG00000164972	9	34369017	A
67	C9orf25	Gga#S35713622	ENSGALG00000005821	Z	7504745	7542257	1	ENSG00000164970	9	34388182	A
68	DNAI1	Gga#S35713620	ENSGALG00000005831	Z	7612638	7732417	0	ENSG00000122735	9	34448811	A
69	ARID3C	Gga#S21389976	ENSGALG00000005839	Z	7737308	7765961	1	ENSG00000205143	9	34611455	A
70	C9orf23		ENSGALG00000005833	Z	7737442	7737853	0	ENSG00000164967	9	34600493	A
71	DCTN3		ENSGALG000000021365	Z	7741849	7748828	0	ENSG00000137100	9	34603549	A
72	SIGMAR	Gga#S22197487		Z	7769786	7771276	1	ENSG00000147955	9	34624719	A
73	GALT	Gga#S33762530		Z	7771931	7774233	0	ENSG00000213930	9	34636635	A
74	CNTFR	Gga#S19183023	ENSGALG00000007275	Z	8109916	8130764	0	ENSG00000122756	9	34541432	A
75	IL11RA	Gga#S22414595	ENSGALG00000005848	Z	8155875	8176128	0	ENSG00000137070	9	34643932	A
76	KIAA1045	Gga#S21389965	ENSGALG00000001900	Z	8272396	8275121	0	ENSG00000122733	9	34948192	A
77	DNAJB5	Gga#S21389964	ENSGALG00000001918	Z	8290987	8303144	0	ENSG00000137094	9	34979742	A
78	PIGO	Gga#S35713616	ENSGALG00000002023	Z	8307850	8370054	1	ENSG00000165282	9	35078685	A
79	VCP		ENSGALG00000001986	Z	8307852	8324030	0	ENSG00000165280	9	35046904	A
80	FANCG		ENSGALG00000002009	Z	8338237	8341273	0	ENSG00000221829	9	35063837	A
81	STOML2		ENSGALG00000002064	Z	8359674	8430745	0	ENSG00000165283	9	35089891	A
82	KIAA1539		ENSGALG00000002069	Z	8365469	8396354	0	ENSG00000005238	9	35094109	A
83	UNC13B		ENSGALG00000002165	Z	8522690	8621277	0	ENSG00000198722	9	35151989	A
84	AL133476.17	Gga#S21389937	ENSGALG00000002326	Z	8652284	8710304	0	ENSG00000179766	9	35396765	A
85	RUSC2	Gga#S35713614	ENSGALG00000002371	Z	8750054	8765789	0	ENSG00000198853	9	35480124	A
86	PTPRK-like	Gga#S21389959	ENSGALG000000021355	Z	8769950	8790528	0	ENSGALG000000021355			B1
87	TESK1	Gga#S21512829		Z	8814651	8822244	0	ENSG00000107140	9	35595281	A
88	CD72	Gga#S19183050	ENSGALG00000005194	Z	8823764	8826769	1	ENSG00000137101	9	35599530	A
89	cZorf13	Gga#S19629597		Z	8839177	8841670	0				B1
90	C9orf127	Gga#S19634228	ENSGALG00000002386	Z	8847140	8852615	1	ENSG00000137103	9	35804448	A
91	TAF1C			Z	8854602	8863256	0				B1
92	HINT2			Z	8857351	8859999	0	ENSG00000137133	9	35802957	A
93	SPAG8			Z	8862363	8862449	0	ENSG00000137098	9	35797782	A
94	NPR2	Gga#S6749376	ENSGALG000000023627	Z	8864356	8873409	1	ENSG00000159899	9	35782151	A
95	MSMP			Z	8880560	8881890	0	ENSG00000215183	9	35742990	A
96	RGP1	Gga#S23830910	ENSGALG00000002394	Z	8883531	8892025	1	ENSG00000107185	9	35739340	A
97	GBA2	Gga#S6717936	ENSGALG00000002412	Z	8892641	8901913	0	ENSG00000070610	9	35726864	A
98	AVIDIN-like	Gga#S21389933	ENSGALG000000021848	Z	8903176	8903946	0	ENSGALG00000021848			B1
99	AVID		ENSGALG000000023622	Z	8911953	8912993	1	ENSGALG00000023622			B1
100	AVR2	Gga#S7088877	ENSGALG000000002446	Z	8915587	8920538	0	ENSGALG00000002446			B1
101	also similar to	Gga#S14752369	ENSGALG000000023622	Z	8931274	8932328					B1
102	also similar to	AVIDIN	ENSGALG000000023622	Z	8931274						B1
103	CREB3	Gga#S21389956	ENSGALG00000002523	Z	8935185	8941063	1	ENSG00000107175	9	35722317	A
104	TLN1	Gga#S19183604	ENSGALG00000002548	Z	8942836	8969650	0	ENSG00000137076	9	35687336	A
105	Q9PST0	Gga#S7089362	ENSGALG00000002563	Z	8973864	8982209	0	ENSG00000198467	9	35671990	A
106	APH1A	Gga#S33769572	ENSGALG00000002578	Z	8988105	8991723	0	ENSG00000117362	1	148502512	B3a
107	CA9	Gga#S35713605	ENSGALG000000021340	Z	8993052	8997637	1	ENSG00000107159	9	35663853	A
108	cZorf6	Gga#S21389954	ENSGALG000000021338	Z	9024424	9051879	1	ENSGALG000000021338			B1
109	MYO5B			Z	9037011	9044454	0	ENSG00000167306	18	45603099	A
110	C9orf100	Gga#S21389931	ENSGALG000000002599	Z	9052340	9062390	0	ENSG00000137135	9	35649341	A
111	MRPL17	Gga#S33765425	ENSGALG00000002605	Z	9064611	9065251	1	ENSG00000158042	11	6659456	B3a
112	CCBE1		ENSGALG00000002613	Z	9070159	9091921	1	ENSG00000183287	18	55252129	A
113	PDZD2	Gga#S21389952	ENSGALG00000002854	Z	9223760	9284959	1	ENSG00000133401	5	31834788	A
114	GOLPH3	Gga#S21389951	ENSGALG00000003151	Z	9434929	9463508	1	ENSG00000113384	5	32160581	A
115	MTMR12	Gga#S21389950	ENSGALG00000003168	Z	9476201	9505530	1	ENSG00000150712	5	32262868	A
116	ZFR	Gga#S21389949	ENSGALG00000003235	Z	9520947	9549545	1	ENSG00000056097	5	32390214	A
117	TCP4	Gga#S22197116	ENSGALG00000003248	Z	9569665	9579538	0	ENSG00000113387	5	32621434	A
118	NPR3	Gga#S6905136	ENSGALG000000017405	Z	9814902	9853936	1	ENSG00000113389	5	32747422	A

119	TARS	Gga#S22197714	ENSGALG00000003288	Z	9869024	9883210	0	ENSG00000113407	5	33476655	A
120	ADAMTS12	Gga#S35713600	ENSGALG00000003295	Z	9907419	9983087	1	ENSG00000151388	5	33563043	A
121	RXFP3	Gga#S21389928	ENSGALG000000017411	Z	10081770	10083110	0	ENSG00000182631	5	33972246	A
122	A3QW68	Gga#S37260020	ENSGALG00000003310	Z	10095465	10112682	1	ENSG00000164175	5	33980481	A
123	AMACR	Gga#S22197466	ENSGALG00000003326	Z	10114770	10135049	1	ENSG00000082196	5	34023069	A
124	RAI14	Gga#S21389942	ENSGALG00000003353	Z	10231367	10311412	0	ENSG00000039560	5	34692275	A
125	RAD1	Gga#S33763646	ENSGALG00000003365	Z	10324779	10330087	1	ENSG00000113456	5	34938268	A
126	BXDC2	Gga#S33765254	ENSGALG00000003373	Z	10330247	10333640	0	ENSG00000113460	5	34951577	A
127	DNAJA5	Gga#S21389939	ENSGALG00000003387	Z	10334847	10348909	0	ENSG00000168724	5	34965455	A
128	AGXT2	Gga#S21389926	ENSGALG00000003432	Z	10351118	10362824	1	ENSG00000113492	5	35033965	A
129	PRLR	Gga#S19551205	ENSGALG00000003446	Z	10377880	10399479	1	ENSG00000113494	5	35084621	A
130	SPEF2	Gga#S18606629	ENSGALG00000003459	Z	10561297	10595393	0	ENSG00000152582	5	35653746	A
131	A1EA95	Gga#S36019312	ENSGALG000000013372	Z	10653651	10666612	0	ENSG00000168685	5	35892748	A
132	CAPSL	Gga#S33760266	ENSGALG000000013376	Z	10675092	10679076	1	ENSG00000152611	5	35940157	A
133	LMBRD2	Gga#S23830864	ENSGALG000000013377	Z	10704936	10740976	1	ENSG00000164187	5	36139171	A
134	SKP2	Gga#S22197852	ENSGALG000000003547	Z	10746116	10755093	0	ENSG00000145604	5	36187946	A
135	C5orf33	Gga#S35713597	ENSGALG000000003558	Z	10759830	10832868	1	ENSG00000152620	5	36228451	A
136	AC008942.6-1			Z	10775905	10789431	0	ENSG000000219830	5	36263356	A
137	AC104127.2			Z	10789482	10789366	0	ENSG000000218494	5	93515468	B1
138	RANBP3L		ENSGALG000000021304	Z	10801765	10820148	0	ENSG00000164188	5	36284862	A
139	Q9IAS3	Gga#S21389921	ENSGALG000000003582	Z	10938885	10999058	0	ENSG00000079215	5	36642446	A
140	NIPBL	Gga#S21389920	ENSGALG000000003605	Z	11124762	11220600	0	ENSG00000164190	5	36912649	A
141	C5orf42	Gga#S35713596	ENSGALG000000003629	Z	11234645	11298031	1	ENSG00000197603	5	37142087	A
142	AC025449.6-3		ENSGALG000000003631	Z	11280703	11297128	0	ENSG000000215147	5	37241214	A
143	NUP155	Gga#S21389916	ENSGALG000000003688	Z	11300366	11331197	1	ENSG000000113569	5	37327698	A
144	WDR70	Gga#S22196679	ENSGALG000000003708	Z	11332836	11468048	0	ENSG00000082068	5	37415169	A
145	Q9IAM2	Gga#S7087632	ENSGALG000000003716	Z	11493411	11512674	1	ENSG00000168621	5	37848536	A
146	EGFLAM	Gga#S21389913	ENSGALG000000003726	Z	11687383	11759688	0	ENSG00000164318	5	38294290	A
147	LIFR	Gga#S19183650	ENSGALG000000003733	Z	11774693	11801832	1	ENSG00000113594	5	38510823	A
148	OSMR	Gga#S21389912	ENSGALG000000003747	Z	11923198	11947381	0	ENSG00000145623	5	38881893	A
149	RICTOR	Gga#S35713594	ENSGALG000000003775	Z	11953811	11996704	1	ENSG00000164327	5	38973779	A
150	FYB	Gga#S22196342	ENSGALG000000003792	Z	12039412	12100134	1	ENSG00000082074	5	39141115	A
151	DAB2	Gga#S35713592	ENSGALG000000003803	Z	12115936	12125706	1	ENSG00000153071	5	39407537	A
152	A2TH16	Gga#S36661938	ENSGALG000000014824	Z	12607398	12616434	0	ENSG00000171522	5	40715789	A
153	PRKAA1	Gga#S29944157	ENSGALG000000014832	Z	12622605	12679307	1	ENSG00000132356	5	40795238	A
154	TTC33		ENSGALG000000014826	Z	12622607	12657710	0	ENSG000000113638	5	40747439	A
155	MELK		ENSGALG000000016438	Z	12668035	12754479	0	ENSG00000165304	9	36562873	A
156	RPL37	Gga#S29401688	ENSGALG000000014833	Z	12684859	12687274	1	ENSG00000145592	5	40867187	A
157	C7	Gga#S21390271	ENSGALG000000014835	Z	12703690	12722765	0	ENSG00000112936	5	40945356	A
158	C6		ENSGALG000000014840	Z	12734366	12765066	1	ENSG000000039537	5	41178093	A
159	PLCXD3	Gga#S33767385	ENSGALG000000014845	Z	12787286	12877282	1	ENSG00000182836	5	41342805	A
160	OXCT1	Gga#S22980535	ENSGALG000000014846	Z	12946701	12981067	1	ENSG00000083720	5	41765925	A
161	C5orf51	Gga#S21390267	ENSGALG000000014849	Z	13040107	13048827	0	ENSG00000205765	5	41940227	A
162	FBXO4		ENSGALG000000014851	Z	13043626	13049228	0	ENSG00000151876	5	41961113	A
163	GHR	Gga#S20191471	ENSGALG000000014855	Z	13309802	13324824	0	ENSG00000112964	5	42459783	A
164	CCDC152		ENSGALG000000023503	Z	13339262	13353835	0	ENSG00000198865	5	42792687	A
165	SEPP1	Gga#S26468079	ENSGALG000000014857	Z	13355763	13361809	1	ENSG000000211446	5	42836579	A
166	ZNFI31		ENSGALG000000014859	Z	13381238	13392714	0	ENSG00000172262	5	43157399	A
167	NIM1	Gga#S19788932	ENSGALG000000014861	Z	13381239	13420388	0	ENSG00000177453	5	43228084	A
168	HMCS1	Gga#S19184021	ENSGALG000000014862	Z	13423735	13428723	1	ENSG000000112972	5	43325250	A
169	C5orf28	Gga#S21390262	ENSGALG000000014863	Z	13457746	13471854	1	ENSG00000151881	5	43480112	A
170	C5orf34	Gga#S21390261	ENSGALG000000014865	Z	13476867	13487725	1	ENSG00000172244	5	43522567	A
171	PAIP1	Gga#S35713588	ENSGALG000000014867	Z	13491966	13510448	1	ENSG00000172239	5	43562129	A
172	NNT	Gga#S35713586	ENSGALG000000014869	Z	13514136	13554968	0	ENSG000000112992	5	43638582	A
173	FGF10	Gga#S19183813	ENSGALG000000014872	Z	13794014	13798918	1	ENSG00000070193	5	44340831	A
174	MRPS30	Gga#S19182977	ENSGALG000000014874	Z	13950132	13955320	0	ENSG00000112996	5	44844784	A
175	HCN1		ENSGALG000000014875	Z	14175748	14370192	1	ENSG00000164588	5	45295125	A
176	EMB	Gga#S19183635	ENSGALG000000014877	Z	14455744	14527304	1	ENSG00000170571	5	49730236	A
177	PARP8	Gga#S21390257	ENSGALG000000014880	Z	14620858	14672681	0	ENSG00000151883	5	49998570	A
178	ISL1	Gga#S19184025	ENSGALG000000014884	Z	14911245	14921769	0	ENSG000000016082	5	50714715	A

179	PELO	Gga#S22197054	ENSGALG00000022377	Z	15545840	15548128	0	ENSG00000152684	5	52119531	A
180	ITA1	Gga#S19183074	ENSGALG00000014891	Z	15561360	15610882	0	ENSG00000213949	5	52119893	A
181	ITGA2		ENSGALG00000014903	Z	15629071	15690951	0	ENSG00000164171	5	52320913	A
182	MOCS2	Gga#S35713583	ENSGALG00000014906	Z	15699045	15702608	1	ENSG00000164172	5	52427266	A
183	FST	Gga#S19183202	ENSGALG00000014908	Z	15839352	15844782	0	ENSG00000134363	5	52812174	A
184	Q8QGH0	Gga#S22196913	ENSGALG00000014909	Z	15870578	15915856	0	ENSG00000164258	5	52892242	A
185	ARL15	Gga#S35713577	ENSGALG00000014911	Z	16087162	16103232	1	ENSG00000185305	5	53216371	A
186	SNX18	Gga#S35713580	ENSGALG00000014914	Z	16205099	16236941	0	ENSG00000178996	5	53849350	A
187	HSPB3		ENSGALG00000014912	Z	16205290	16205539	0	ENSG00000169271	5	53787202	A
188	ESM1			Z	16394708	16401071	0	ENSG00000164283	5	54309915	A
189	GZMK	Gga#S21387347	ENSGALG00000013546	Z	16416503	16421730	1	ENSG00000113088	5	54355864	A
190	GZMA	Gga#S16073703	ENSGALG00000013548	Z	16428650	16432527	0	ENSG00000145649	5	54434230	A
191	CDC20B	Gga#S21387346	ENSGALG00000023476	Z	16441685	16454042	1	ENSG00000164287	5	54444580	A
192	GPX8	Gga#S29405208	ENSGALG00000013553	Z	16462732	16465296	0	ENSG00000164294	5	54491744	A
193	CCNO			Z	16497435	16497436	0	ENSG00000152669	5	54562740	A
194	DHX29	Gga#S21390331	ENSGALG00000014700	Z	16504263	16525288	1	ENSG00000067248	5	54587831	A
195	SKIV2L2	Gga#S22198004	ENSGALG00000014709	Z	16528159	16572487	0	ENSG00000039123	5	54639594	A
196	PPAP2A	Gga#S19551293	ENSGALG00000014711	Z	16572872	16627708	1	ENSG00000067113	5	54756442	A
197	SLC38A9	Gga#S21390328	ENSGALG00000014712	Z	16651237	16687783	1	ENSG00000177058	5	54957430	A
198	DDX4	Gga#S19183831	ENSGALG00000014713	Z	16696396	16725120	0	ENSG00000152670	5	55069627	A
199	IL31RA	Gga#S21390327	ENSGALG00000014714	Z	16766573	16780434	0	ENSG00000164509	5	55182964	A
200	IL6ST	Gga#S19183968	ENSGALG00000014716	Z	16794968	16819363	1	ENSG00000134352	5	55266680	A
201	ANKRD55		ENSGALG00000014717	Z	16859047	16909279	1	ENSG00000164512	5	55431264	A
202	MAP3K1	Gga#S21390322	ENSGALG00000014718	Z	17206212	17237622	0	ENSG00000095015	5	56146657	A
203	C5orf35		ENSGALG00000014719	Z	17231696	17237616	0	ENSG00000155542	5	56240857	A
204	MIER3	Gga#S21390320	ENSGALG00000014721	Z	17246424	17269405	1	ENSG00000155545	5	56251186	A
205	GPBP1	Gga#S21390318	ENSGALG00000014724	Z	17302941	17321708	0	ENSG00000062194	5	56505701	A
206	PLK2	Gga#S21390316	ENSGALG00000014725	Z	17786738	17792050	1	ENSG00000145632	5	57785571	A
207	RAB3C	Gga#S35713572	ENSGALG00000014726	Z	17845969	17912113	0	ENSG00000152932	5	57914696	A
208	PDE4D	Gga#S35713571	ENSGALG00000014727	Z	18020720	18068366	1	ENSG00000113448	5	58300629	A
209	DEP1B	Gga#S22197535	ENSGALG00000014729	Z	18623218	18641333	1	ENSG00000035499	5	59928506	A
210	ELOVL7		ENSGALG00000014730	Z	18644828	18655891	1	ENSG00000164181	5	60083376	A
211	ERCC8	Gga#S21390313	ENSGALG00000014732	Z	18699479	18733810	1	ENSG00000049167	5	60205415	A
212	NDUFAF2	Gga#S35713570	ENSGALG00000014733	Z	18737368	18783477	0	ENSG00000164182	5	60276791	A
213	Q5F409	Gga#S23831133	ENSGALG00000023443	Z	18785922	18786146	1	ENSG00000188725	5	60489297	A
214	ZSWIM6	Gga#S21388339	ENSGALG00000014735	Z	18912440	18971457	0	ENSG00000130449	5	60852928	A
215	cZorf11		ENSGALG00000020570	Z	19100605	19100858	0	X10	5		A
216	KIF2A	Gga#S22197361	ENSGALG00000014737	Z	19187940	19243256	0	ENSG00000068796	5	61637746	A
217	DIMT1L	Gga#S19721885	ENSGALG00000020569	Z	19248664	19255397	1	ENSG00000086189	5	61720108	A
218	IPO11	Gga#S35713569	ENSGALG00000014740	Z	19262666	19329722	0	ENSG00000086200	5	61744351	A
219	HTR1A		ENSGALG00000014742	Z	19760841	19762082	1	ENSG00000178394	5	63292034	A
220	RNF180		ENSGALG00000014743	Z	19834120	19891919	0	ENSG00000164197	5	63497427	A
221	RGS7BP	Gga#S35713560	ENSGALG00000014744	Z	19834664	19955713	0	ENSG00000186479	5	63838208	A
222	FAM159B		ENSGALG00000014745	Z	19973950	19976074	0	ENSG00000153006	5	64049736	A
223	SDCCAG10	Gga#S21390307	ENSGALG00000014747	Z	19978630	19987968	0	ENSG00000153015	5	64100511	A
224	ADAMTS6	Gga#S21390306	ENSGALG00000014751	Z	20135955	20286225	1	ENSG00000049192	5	64480322	A
225	CENPK	Gga#S18605356	ENSGALG00000014753	Z	20316278	20334806	1	ENSG00000123219	5	64849349	A
226	PPWD1	Gga#S21390303	ENSGALG00000014756	Z	20337264	20351383	0	ENSG00000113593	5	64894873	A
227	TRIM23	Gga#S21390302	ENSGALG00000014765	Z	20355383	20373025	1	ENSG000000113595	5	64921268	A
228	C5orf44	Gga#S22196445	ENSGALG00000014767	Z	20380292	20397639	0	ENSG00000113597	5	64956628	A
229	SGTB	Gga#S22196798	ENSGALG00000014768	Z	20402293	20420231	1	ENSG00000197860	5	64997520	A
230	NLN	Gga#S21390299	ENSGALG00000014769	Z	20433278	20458832	0	ENSG00000123213	5	65053834	A
231	ERBB2IP	Gga#S21390277	ENSGALG00000014773	Z	20535250	20607717	0	ENSG00000112851	5	65258158	A
232	SFRS12	Gga#S21390298	ENSGALG00000014775	Z	20618630	20656342	0	ENSG00000153914	5	65475841	A
233	MAST4	Gga#S35713559	ENSGALG00000014784	Z	21001540	21060798	0	ENSG00000069020	5	65927932	A
234	CD180	Gga#S35713558	ENSGALG00000023411	Z	21064239	21071674	1	ENSG00000134061	5	66513872	A
235	PIK3R1	Gga#S21390295	ENSGALG00000014786	Z	21372177	21422773	0	ENSG00000145675	5	67558218	A
236	MRPS36		ENSGALG00000014789	Z	21573150	21689819	0	ENSG00000134056	5	68549329	A
237	SLC30A5	Gga#S22197557	ENSGALG00000014787	Z	21652603	21672629	0	ENSG00000145740	5	68425638	A
238	CENPH	Gga#S19183693	ENSGALG00000014788	Z	21677685	21683126	0	ENSG00000153044	5	68521131	A

239	CDK7	Gga#S18613538	ENSGALG00000014790	Z	21683992	21714386	0	ENSG00000134058	5	68566471	A
240	SERINC5	Gga#S21390291	ENSGALG00000014798	Z	21742485	21773158	0	ENSG00000164300	5	79466607	A
241	Q91002	Gga#S21390290	ENSGALG00000014804	Z	21782331	21820439	1	ENSG000000113296	5	79366859	A
242	Q5F3K9	Gga#S23830918	ENSGALG00000014807	Z	21825182	21833664	0	ENSG00000177034	5	79313964	A
243	PAPD4		ENSGALG00000014810	Z	21893340	21998820	1	ENSG00000164329	5	78944152	A
244	CMYA5		ENSGALG00000014809	Z	21893340	21998820	1	ENSG00000164309	5	78,985,659	A
245	HOMER1	Gga#S21390284	ENSGALG00000014813	Z	22019772	22084974	0	ENSG00000152413	5	78704215	A
246	JMY	Gga#S35713554	ENSGALG00000014819	Z	22103814	22157572	1	ENSG00000152409	5	78568095	A
247	BHMT	Gga#S21393334	ENSGALG00000004518	Z	22189559	22205238	1	ENSG00000145692	5	78443360	A
248	BHMT2		ENSGALG00000004518	Z	22189657	22202301	0	ENSG00000132840	5	78401339	A
249	DMGDH	Gga#S35713553	ENSGALG00000004491	Z	22205667	22250674	0	ENSG00000132837	5	78329186	A
250	ARSB	Gga#S35713552	ENSGALG00000004438	Z	22255809	22321578	0	ENSG00000113273	5	78108795	A
251	LHFPL2	Gga#S21393336	ENSGALG00000004437	Z	22456798	22468723	0	ENSG00000145685	5	77816796	A
252	SCAMP1	Gga#S21393337	ENSGALG00000004425	Z	22476737	22512615	1	ENSG00000085365	5	77692163	A
253	AP3B1	Gga#S35713564	ENSGALG00000004390	Z	22543480	22710351	0	ENSG00000132842	5	77333909	A
254	TBCA	Gga#S33762210	ENSGALG00000004353	Z	22840066	22871586	0	ENSG00000171530	5	77022751	A
255	OTP	Gga#S21537018	ENSGALG00000017547	Z	22892634	22898393	0	ENSG00000171540	5	76960294	A
256	WDR41	Gga#S29405206	ENSGALG00000004350	Z	22937594	22958072	0	ENSG00000164253	5	76763826	A
257	PDE8B		ENSGALG00000004339	Z	22963774	22999799	1	ENSG00000113231	5	76542462	A
258	AGGF1	Gga#S21393341	ENSGALG00000004311	Z	23065947	23085838	1	ENSG00000164252	5	76361988	A
259	CRHBP	Gga#S21390233	ENSGALG00000014994	Z	23121208	23129094	1	ENSG00000145708	5	76284436	A
260	S100Z		ENSGALG00000014989	Z	23142189	23143721	1	ENSG00000171643	5	76181582	A
261	F2RL1	Gga#S23831254	ENSGALG00000014984	Z	23168989	23175642	1	ENSG00000164251	5	76150610	A
262	F2R	Gga#S21390235	ENSGALG00000014983	Z	23201330	23208612	1	ENSG00000181104	5	76047542	A
263	IQGAP2	Gga#S33768853	ENSGALG00000014978	Z	23215777	23311601	1	ENSG00000145703	5	75734905	A
264	F2RL2		ENSGALG00000023379	Z	23247284	23248160	0	ENSG00000164220	5	75947064	A
265	SV2C	Gga#S21390230	ENSGALG00000014967	Z	23348601	23417166	1	ENSG00000122012	5	75415060	A
266	C5orf37	Gga#S21390237	ENSGALG00000014960	Z	23577811	23597483	0	ENSG00000152359	5	75005705	A
267	ANKDD1B	Gga#S21390231	ENSGALG00000014958	Z	23598899	23620675	1	ENSG00000189045	5	74948395	A
268	POLK	Gga#S19183294	ENSGALG00000014956	Z	23626041	23649779	1	ENSG00000122008	5	74843337	A
269	COL4A3BP	Gga#S21390238	ENSGALG00000014952	Z	23658812	23729233	0	ENSG00000113163	5	74702684	A
270	HMGCR	Gga#S17668715	ENSGALG00000014948	Z	23762420	23778919	1	ENSG00000113161	5	74668855	A
271	ANKRD31	Gga#S21390239	ENSGALG00000014945	Z	23786543	23836231	0	ENSG00000145700	5	74478817	A
272	GCNT4	Gga#S21390240	ENSGALG00000014944	Z	23856387	23859301	0	ENSG00000176928	5	74356927	A
273	FAM169A	Gga#S21390232	ENSGALG00000014943	Z	23932608	23949835	0	ENSG00000198780	5	74109155	A
274	TINP1	Gga#S33766211	ENSGALG00000014942	Z	23956233	23959862	1	ENSG00000164346	5	74098859	A
275	GFM2	Gga#S21390242	ENSGALG00000014939	Z	23960621	23977800	0	ENSG00000164347	5	74052790	A
276	HEXB	Gga#S21390243	ENSGALG00000014933	Z	23978873	23994208	1	ENSG00000049860	5	74016767	A
277	ENC1	Gga#S21390244	ENSGALG00000014930	Z	24027213	24028982	0	ENSG00000171617	5	73958991	A
278	AC093283.3-2		ENSGALG00000014923	Z	24323707	24358768	0	ENSG00000038102	5	73215339	A
279	AC093283.3-1	Gga#S35713548	ENSGALG00000023365	Z	24406557	24422883	1	ENSG00000214944	5	72957739	A
280	UTP15	Gga#S23830846	ENSGALG00000013510	Z	24461874	24470980	1	ENSG00000164338	5	72897336	A
281	ANKRA2	Gga#S22196475	ENSGALG00000013511	Z	24471977	24477533	0	ENSG00000164331	5	72883919	A
282	BTF3	Gga#S6899977	ENSGALG00000013512	Z	24490421	24496689	1	ENSG00000145741	5	72830006	A
283	FOXD1	Gga#S19182964	ENSGALG00000012644	Z	24508180	24510389	0	ENSG00000183900	5	72,778,548	A
284	FOXD4L6			Z	24508606	24508911	0	ENSG00000204793	9	68489300	A
285	TMEM174	Gga#S20465368	ENSGALG00000015021	Z	24648961	24655176	1	ENSG00000164325	5	72504804	A
286	TMEM171		ENSGALG00000015020	Z	24663703	24666679	0	ENSG00000157111	5	72452158	A
287	FCHO2	Gga#S35713545	ENSGALG00000015019	Z	24684518	24775699	1	ENSG00000157107	5	72287655	A
288	TNPO1	Gga#S21390221	ENSGALG00000015014	Z	24790135	24844203	1	ENSG00000083312	5	72148171	A
289	ZNF366		ENSGALG00000015008	Z	24953864	24967029	0	ENSG00000178175	5	71774990	A
290	PTCD2	Gga#S6944166	ENSGALG00000023361	Z	25003818	25020249	1	ENSG00000049883	5	71651956	A
291	MRPS27	Gga#S21390224	ENSGALG00000015002	Z	25021547	25066621	0	ENSG00000113048	5	71551112	A
292	MAP1B	Gga#S35713543	ENSGALG00000014999	Z	25078838	25145954	1	ENSG00000131711	5	71438874	A
293	C9orf71	Gga#S6919983	ENSGALG00000023357	Z	25264050	25265568	0	ENSG00000181778	9	70341320	A
294	PGM5P2	Gga#S21390226	ENSGALG00000014995	Z	25271323	25336593	1	ENSG00000204794	9	68131062	A
295	PGM5		ENSGALG00000014995	Z	25271325	25336593	0	ENSG00000154330	9	70161635	A
296	SMARCA2	Gga#S19183135	ENSGALG00000010164	Z	25515676	25614585	0	ENSG00000080503	9	2005342	A
297	VLDLR	Gga#S19183879	ENSGALG00000010166	Z	25736496	25750571	0	ENSG00000147852	9	2611793	A
298	KCNV2		ENSGALG00000010173	Z	25784889	25790421	0	ENSG00000168263	9	2707526	A

299	KIAA0020	Gga#S22197843	ENSGALG00000010178	Z	25808662	25839016	1	ENSG00000080608	9	2794152	A
300	RFX3	Gga#S35713539	ENSGALG00000010179	Z	25851663	25918160	1	ENSG00000080298	9	3214649	A
301	GLIS3	Gga#S35713538	ENSGALG00000010180	Z	26050553	26140746	1	ENSG000000107249	9	3814128	A
302	SLC1A1	Gga#S21390037	ENSGALG00000010187	Z	26256592	26302309	0	ENSG00000106688	9	4480444	A
303	CDC37L1	Gga#S21386590	ENSGALG00000014448	Z	26623580	26632316	0	ENSG00000106993	9	4669559	A
304	AK3	Gga#S29404829	ENSGALG00000014447	Z	26636085	26648087	1	ENSG00000147853	9	4701158	A
305	JAK2	Gga#S18388718	ENSGALG00000015027	Z	26749540	26793291	0	ENSG00000096968	9	4975245	A
306	RLN3	Gga#S6946419	ENSGALG00000015028	Z	26804237	26806467	1	ENSG00000171136	19	13998501	B3a
307	CD274	Gga#S21390212	ENSGALG00000015031	Z	26836539	26873661	0	ENSG00000120217	9	5440559	A
308	PDCD1LG2		ENSGALG00000015032	Z	26870422	26874376	0	ENSG00000197646	9	5500579	A
309	KIAA1432	Gga#S33764522	ENSGALG00000015036	Z	26891551	26941704	0	ENSG00000107036	9	5619120	A
310	ERMP1	Gga#S21386366	ENSGALG00000000438	Z	26952283	26967236	1	ENSG00000099219	9	5774571	A
311	SLC16A7-like		ENSGALG00000015045	Z	26981246	26988445	0	ENSGALG00000015045			B2
312	MLANA	Gga#S6876186	ENSGALG00000019756	Z	26994424	26998541	0	ENSG00000120215	9	5880908	A
313	KIAA2026	Gga#S21390209	ENSGALG00000015050	Z	27003498	27065271	1	ENSG00000183354	9	5909008	A
314	UHRF2	Gga#S18608049	ENSGALG00000015052	Z	27124767	27205681	0	ENSG00000147854	9	6403151	A
315	GCCP	Gga#S19183413	ENSGALG00000015053	Z	27209583	27246907	1	ENSG00000178445	9	6522469	A
316	JMJD2C	Gga#S35713531	ENSGALG00000020557	Z	27293694	27361393	0	ENSG00000107077	9	6747654	A
317	PTPRD	Gga#S35713530	ENSGALG00000015058	Z	28013444	28107930	1	ENSG00000153707	9	8304246	A
318	ANKRD13C	Gga#S21395048	ENSGALG00000011311	Z	29538166	29538513	0	ENSGALG00000011311	1	70500138	B1
319	C9orf150	Gga#S14755341	ENSGALG00000023301	Z	29864578	29869219	1	ENSG00000153714	9	12765012	A
320	TYRP1	Gga#S19551224	ENSGALG00000015205	Z	29917192	29927109	1	ENSG00000107165	9	12683435	A
321	MPDZ	Gga#S35713525	ENSGALG00000005846	Z	30051725	30143174	1	ENSG00000107186	9	13095703	A
322	cZorf10		ENSGALG00000023299	Z	30228735	30229724	0	ENSGALG00000023299			B1
323	NFIB	Gga#S19183156	ENSGALG00000005441	Z	30609950	30614151	1	ENSG00000147862	9	14071847	A
324	ZDHHC21	Gga#S23830955	ENSGALG00000005437	Z	30742134	30772589	1	ENSG00000175893	9	14607036	A
325	CER1	Gga#S19184037	ENSGALG00000005434	Z	30786099	30787106	1	ENSG00000147869	9	14709731	A
326	C9orf145	Gga#S21390032	ENSGALG00000005426	Z	30796598	30852623	1	ENSG00000164946	9	14727150	A
327	TTC39B	Gga#S21390033	ENSGALG00000005416	Z	30915607	30943071	1	ENSG00000155158	9	15161561	A
328	SNAPC3			Z	31011579	31014713	0	ENSG00000164975	9	15412732	A
329	PSIP1	Gga#S22197548	ENSGALG00000015105	Z	31019104	31053210	1	ENSG00000164985	9	15454067	A
330	C9orf93	Gga#S35713522	ENSGALG00000015103	Z	31061876	31208610	0	ENSG00000164989	9	15543005	A
331	cZorf14	Gga#S19630187		Z	31311449	31327765	0				B1
332	BNC2	Gga#S35713520	ENSGALG00000015101	Z	31433118	31458332	1	ENSG00000173068	9	16399501	A
333	CNTLN	Gga#S35713518	ENSGALG00000015097	Z	32001002	32027913	0	ENSG00000044459	9	17124980	A
334	SH3GL2	Gga#S19183608	ENSGALG00000015096	Z	32118463	32143265	0	ENSG00000107295	9	17569194	A
335	cZorf5	Gga#S6903113	ENSGALG00000020553	Z	32430230	32430963	1	ENSGALG00000020553			B1
336	ADAMTSL1	Gga#S21390189	ENSGALG00000015095	Z	32460253	32628168	0	ENSG00000178031	9	18464098	A
337	FAM154A			Z	32642078	32641812	0	ENSG00000155875	9	18917890	A
338	FAM29A	Gga#S22197326	ENSGALG00000015091	Z	32667625	32684489	1	ENSG00000147874	9	19043142	A
339	ADFP	Gga#S23831043	ENSGALG00000015090	Z	32686008	32696172	1	ENSG00000147872	9	19105760	A
340	DENND4C	Gga#S21390196	ENSGALG00000015083	Z	32761406	32810410	0	ENSG00000137145	9	19280749	A
341	RS6	Gga#S7028314	ENSGALG00000015082	Z	32818539	32822774	1	ENSG00000137154	9	19366254	A
342	ASAH3L	Gga#S21390197	ENSGALG00000015081	Z	32826134	32843629	0	ENSG00000177076	9	19398925	A
343	NCKX2	Gga#S20791224	ENSGALG00000015080	Z	32870923	32971723	1	ENSG00000155886	9	19505978	A
344	MLLT3	Gga#S21390199	ENSGALG00000015078	Z	33112528	33223467	1	ENSG00000171843	9	20334968	A
345	KIAA1797	Gga#S21390200	ENSGALG00000015071	Z	33246023	33341239	0	ENSG00000188352	9	20648308	A
346	PTPLAD2	Gga#S18607689	ENSGALG00000015063	Z	33346086	33393917	1	ENSG00000188921	9	20996365	A
347	RFK	Gga#S22197975	ENSGALG00000000004	Z	34416803	34420467	1	ENSG00000135002	9	78190253	B1
348	PI51B	Gga#S22196761	ENSGALG00000015107	Z	34489103	34560962	0	ENSG00000107242	9	70510436	A
349	FXN		ENSGALG00000015108	Z	34554237	34560950	0	ENSG00000165060	9	70840164	A
350	TJP2	Gga#S19183902	ENSGALG00000015109	Z	34574005	34630090	0	ENSG00000119139	9	70956382	A
351	C9orf61	Gga#S21390185	ENSGALG00000015110	Z	34653275	34677000	0	ENSG00000135063	9	71134061	A
352	APBA1	Gga#S21390184	ENSGALG00000015111	Z	34683359	34715772	1	ENSG00000107282	9	71235022	A
353	PTAR1	Gga#S21390174	ENSGALG00000015113	Z	34781304	34806863	1	ENSG00000188647	9	71522874	A
354	MAMDC2	Gga#S35713516	ENSGALG00000015115	Z	34862273	34926493	0	ENSG00000165072	9	71848340	A
355	SMC5	Gga#S23831005	ENSGALG00000015118	Z	34934161	34988662	0	ENSG00000198887	9	72063698	A
356	KLF9			Z	35001426	35013592	1	ENSG000000119138	9	72189333	A
357	TRPM3	Gga#S21390181	ENSGALG00000015126	Z	35060901	35198923	1	ENSG00000083067	9	72339769	A
358	TMEM2	Gga#S35713512	ENSGALG00000015138	Z	35519468	35550588	1	ENSG00000135048	9	73371332	A

359	F108B	Gga#S22196704	ENSGALG00000015139	Z	35583298	35593002	1	ENSG00000107362	9	73667188	A
360	C9orf85		ENSGALG00000023262	Z	35599234	35613709	0	ENSG00000155621	9	73716243	A
361	GDA			Z	35599235	35682102	0	ENSG00000119125	9	73716243	A
362	ZFAND5	Gga#S22196967	ENSGALG00000015144	Z	35717496	35731043	1	ENSG00000107372	9	74156161	A
363	TMC1	Gga#S22186796	ENSGALG00000015145	Z	35818485	35851294	0	ENSG00000165091	9	74211091	A
364	AL1A1	Gga#S19182900	ENSGALG00000015147	Z	35874482	35908355	1	ENSG00000165092	9	74705408	A
365	ANXA1	Gga#S18607676	ENSGALG00000015148	Z	36006206	36019978	0	ENSG00000135046	9	74956601	A
366	RORB	Gga#S19183095	ENSGALG00000015150	Z	36614497	36656084	0	ENSG00000198963	9	76302072	A
367	TRPM6		ENSGALG00000015154	Z	36689226	36755868	1	ENSG00000119121	9	76527231	A
368	c9orf40		ENSGALG00000021845	Z	36787940	36791894	0	ENSG00000135045	9	76752786	A
369	C9orf41	Gga#S21390171	ENSGALG00000015155	Z	36794883	36822197	1	ENSG00000156017	9	76785754	A
370	C9orf95		ENSGALG00000015156	Z	36817607	36818725	0	ENSG00000106733	9	76858809	A
371	OSTF1	Gga#S29405459	ENSGALG00000017447	Z	36831169	36843039	0	ENSG00000134996	9	76893275	A
372	Q9PT87	Gga#S33765204	ENSGALG00000015164	Z	37043370	37237756	0	ENSG00000099139	9	77695406	A
373	PCSK1		ENSGALG00000014681	Z	37144735	37180528	0	ENSG00000175426	5	95751875	A
374	RFK	Gga#S21390168	ENSGALG00000015165	Z	37312591	37315967	1	ENSG00000135002	9	78190253	A
375	GCNT1	Gga#S21390167	ENSGALG00000015166	Z	37342732	37343733	0	ENSG00000187210	9	78263888	A
376	PRUNE2	Gga#S35713508	ENSGALG00000015167	Z	37379702	37432067	1	ENSG00000106772	9	78416112	A
377	PRUNE2		ENSGALG00000015168	Z	37422325	37508633	0	ENSG00000156035	9	78593130	A
378	FOXB2			Z	37538384	37539406	0	ENSG00000204612	9	78824391	A
379	VPS13A	Gga#S6829468	ENSGALG00000015170	Z	37582363	37684842	0	ENSG00000197969	9	78982181	A
380	GNA14		ENSGALG00000015176	Z	37689899	37749380	1	ENSG00000156049	9	79228369	A
381	GNAQ	Gga#S23830824	ENSGALG00000015177	Z	37768121	37881851	1	ENSG00000156052	9	79525020	A
382	CEP78	Gga#S21390160	ENSGALG00000015179	Z	37916677	37938341	0	ENSG00000148019	9	80040811	A
383	PSAT1	Gga#S18605917	ENSGALG00000015180	Z	37943444	37957095	0	ENSG00000135069	9	80101879	A
384	TLE4	Gga#S19183342	ENSGALG00000015184	Z	38533080	38548233	0	ENSG00000106829	9	81376508	A
385	TLE1	Gga#S35713505	ENSGALG00000012575	Z	39164058	39234185	1	ENSG00000196781	9	83388423	A
386	RASEF	Gga#S6830557	ENSGALG00000012576	Z	39701409	39736451	1	ENSG00000165105	9	84787144	A
387	FRMD3	Gga#S18605543	ENSGALG00000012577	Z	39791861	39869490	1	ENSG00000172159	9	85047725	A
388	C9orf103	Gga#S21389904	ENSGALG00000012583	Z	39947251	39956171	0	ENSG00000148057	9	85427786	A
389	UBQLN1	Gga#S21389903	ENSGALG00000012585	Z	39963291	39999131	1	ENSG00000135018	9	85464699	A
390	GKAP1	Gga#S21389902	ENSGALG00000012586	Z	40001299	40010876	1	ENSG00000165113	9	85544156	A
391	KIF27	Gga#S35713502	ENSGALG00000012588	Z	40021651	40056033	1	ENSG00000165115	9	85641433	A
392	C9orf64		ENSGALG00000012589	Z	40048670	40055922	0	ENSG00000165118	9	85743049	A
393	HNRPK	Gga#S21389899	ENSGALG00000012591	Z	40058585	40069653	1	ENSG00000165119	9	85772912	A
394	RMI1	Gga#S22196311	ENSGALG00000012592	Z	40076870	40078753	0	ENSG00000178966	9	85785517	A
395	SLC28A3	Gga#S21389898	ENSGALG00000012593	Z	40146170	40188037	1	ENSG00000197506	9	86082933	A
396	NTRK2	Gga#S19183883	ENSGALG00000012594	Z	40269999	40330023	0	ENSG00000148053	9	86473286	A
397	AGTPBP1	Gga#S35713499	ENSGALG00000012595	Z	40647979	40704068	1	ENSG00000135049	9	87351275	A
398	MAK10	Gga#S22196305	ENSGALG00000012598	Z	40716200	40741261	0	ENSG00000135040	9	87745877	A
399	C9orf155	Gga#S21389896	ENSGALG00000012601	Z	40747156	40772724	1	ENSG00000135052	9	87830876	A
400	ISCA1L	Gga#S35713503	ENSGALG00000012606	Z	40802890	40807468	1	ENSG00000217416	5	62106958	A
401	ISCA1		ENSGALG00000012606	Z	40802892	40807459	0	ENSG00000135070	9	88069287	A
402	ZCCHC6	Gga#S35713498	ENSGALG00000012607	Z	40811435	40841061	1	ENSG00000083223	9	88092468	A
403	GAS1		ENSGALG00000017658	Z	41041582	41042705	1	ENSG00000180447	9	88749098	A
404	DAPK1	Gga#S23831250	ENSGALG00000012608	Z	41297175	41357508	0	ENSG00000196730	9	89302616	A
405	CATL	Gga#S21389890	ENSGALG00000012610	Z	41388689	41393773	0	ENSG00000136943	9	98834760	A
406	CTSL1		ENSGALG00000012610	Z	41389800	41393770	0	ENSG00000135047	9	89530254	A
407	Q9I8D3	Gga#S21389889	ENSGALG00000012612	Z	41403269	41423061	1	ENSG00000130957	9	96360826	A
408	Q9I8D4	Gga#S33769360	ENSGALG00000012613	Z	41427925	41437326	1	ENSG00000165140	9	96405244	A
409	Q5ZK89	Gga#S22197142	ENSGALG00000012615	Z	41471576	41537908	0	ENSG00000148120	9	96528804	A
410	C9orf3		ENSGALG00000012615	Z	41604281	41627643	0	ENSG00000148120	9	96528804	A
411	FANCC	Gga#S22317532	ENSGALG00000012618	Z	41642520	41710813	1	ENSG00000158169	9	96901158	A
412	PTC1	Gga#S19182955	ENSGALG00000012620	Z	41753566	41814880	1	ENSG00000185920	9	97245083	A
413	AC091435.3-2			Z	41783208	41783339	0	ENSG00000205783	5	38856410	A
414	C9orf102	Gga#S21389885	ENSGALG00000012621	Z	41947296	41999318	0	ENSG00000182150	9	97677721	A
415	SLC35D2	Gga#S21389880	ENSGALG00000012630	Z	42094735	42142637	1	ENSG00000130958	9	98122834	A
416	HSD17B3			Z	42094758	42117488	0	ENSG00000130948	9	98037410	A
417	ZNF367		ENSGALG00000012629	Z	42146087	42150372	1	ENSG00000165244	9	98190057	A
418	HABP4	Gga#S19183826	ENSGALG00000012628	Z	42159867	42180876	0	ENSG00000130956	9	98252235	A

419	CDC14B	Gga#S21389881	ENSGALG00000012627	Z	42195236	42240926	1	ENSG00000081377	9	98298390 A
420	C9orf21	Gga#S6775438	ENSGALG00000012624	Z	42243556	42246985	1	ENSG00000158122	9	98443355 A
421	cZorf15			Z	42305380	42322181	1			B1
422	CFC1	Gga#S19183819	ENSGALG00000012623	Z	42403097	42405144	1	ENSG00000152093	2	130995137 B3a
423	CNTNAP4		ENSGALG00000023179	Z	42818176	42983228	1	ENSG00000152910	16	74868677 B3a
424	SPIN1Z	Gga#S19183727	ENSGALG00000014916	Z	43201334	43224018	0	ENSG00000106723	9	90193117 A
425	NXNL2	Gga#S33769109		Z	43248626	43266323	0	ENSG00000130045	9	90339840 A
426	S1PR3	Gga#S21386037	ENSGALG00000010683	Z	43421238	43422380	0	ENSG00000213694	9	90796182 A
427	SHC3		ENSGALG00000010688	Z	43432797	43498804	1	ENSG00000148082	9	90817891 A
428	CKS2	Gga#S18608052	ENSGALG00000010693	Z	43532603	43535166	0	ENSG00000123975	9	91115933 A
429	SECISBP2	Gga#S21386039	ENSGALG00000010694	Z	43537413	43564658	0	ENSG00000187742	9	91123232 A
430	SEMA4D		ENSGALG00000024457	Z	43567245	43569813	0	ENSG00000188091	9	91165526 A
431	SEM4D	Gga#S21386038	ENSGALG00000010697	Z	43580685	43601904	1	ENSG00000187764	9	91181972 A
432	GADD45G	Gga#S18611515		Z	43710713	43711467	0	ENSG00000130222	9	91409748 A
433	DIRAS2	Gga#S18609684	ENSGALG00000005323	Z	43976707	43977306	1	ENSG00000165023	9	92411934 A
434	SYK	Gga#S22196794	ENSGALG00000015216	Z	44060329	44089767	0	ENSG00000165025	9	92603891 A
435	TPPP2	Gga#S19647441	ENSGALG00000015213	Z	44101613	44102506	1	ENSG00000179636	14	20568249 B3a
436	AUH	Gga#S7028435	ENSGALG00000015210	Z	44188416	44297278	1	ENSG00000148090	9	93015926 A
437	NFIL3	Gga#S19183702	ENSGALG00000015209	Z	44326831	44328192	1	ENSG00000165030	9	93211148 A
438	A0SVH2	Gga#S35717825	ENSGALG00000015208	Z	44449304	44494056	1	ENSG00000169071	9	93365194 A
439	SPTLC1	Gga#S21387391	ENSGALG00000013493	Z	44632198	44664438	1	ENSG00000090054	9	93833248 A
440	CDC42SE2	Gga#S35713485	ENSGALG00000017686	Z	44740727	44778793	1	ENSG00000158985	5	130627601 A
441	C20orf134	Gga#S21389274	ENSGALG00000006803	Z	44853870	44854835	0	ENSGALG00000006803	20	31717965 B3b
442	LYRM7	Gga#S18611572	ENSGALG00000023163	Z	44863938	44877389	1	ENSG00000186687	5	130534535 A
443	Q3MMY7	Gga#S14761353	ENSGALG00000000428	Z	44879562	44883365	0	ENSG00000169567	5	130522776 A
444	CHSY3	Gga#S21394256	ENSGALG00000023161	Z	46033372	46034937	1	ENSG00000198108	5	129268422 A
445	KIAA1024L			Z	46206067	46206175	0	ENSG00000186367	5	129124054 A
446	ADAMTS19	Gga#S21394254	ENSGALG00000000151	Z	46219209	46336504	1	ENSG00000145808	5	128824002 A
447	ISOC1	Gga#S21394253	ENSGALG00000000161	Z	46496019	46515083	1	ENSG00000066583	5	128458341 A
448	SLC27A6	Gga#S35713478	ENSGALG00000000184	Z	46531183	46570046	1	ENSG00000113396	5	128329109 A
449	YTHDC2	Gga#S21394252	ENSGALG00000000189	Z	46595992	46633350	1	ENSG00000047188	5	112877309 A
450	MCC	Gga#S21394251	ENSGALG00000000208	Z	46773519	46840728	0	ENSG00000171444	5	112385695 A
451	DCP2	Gga#S19182649	ENSGALG00000000215	Z	46849891	46874546	1	ENSG00000172795	5	112340332 A
452	REEP5	Gga#S35713477	ENSGALG00000023157	Z	46882270	46899022	0	ENSG00000129625	5	112239980 A
453	SRP19	Gga#S18610453	ENSGALG00000000218	Z	46904962	46910712	1	ENSG00000153037	5	112224892 A
454	Q4A1V5	Gga#S35713475	ENSGALG00000000220	Z	46921661	46977190	1	ENSG00000134982	5	112101483 A
455	EPB41L4A	Gga#S21394246	ENSGALG00000000234	Z	47082160	47205840	0	ENSG00000129595	5	111507433 A
456	C5orf13	Gga#S19183969	ENSGALG00000000236	Z	47347968	47352552	0	ENSG00000134986	5	111092408 A
457	Q5ZK67	Gga#S22197120	ENSGALG00000000241	Z	47404649	47408803	0	ENSG00000164211	5	110861921 A
458	CAMK4	Gga#S27877489	ENSGALG00000000244	Z	47434514	47592002	1	ENSG00000152495	5	110587981 A
459	WDR36	Gga#S22196327	ENSGALG00000000247	Z	47621806	47651128	1	ENSG00000134987	5	110455769 A
460	S2546	Gga#S22196516	ENSGALG00000000253	Z	47718398	47731645	1	ENSG00000164209	5	110102653 A
461	MAN2A1	Gga#S35713473	ENSGALG00000000255	Z	48049550	48166070	1	ENSG00000112893	5	109053055 A
462	PJA2	Gga#S21394242	ENSGALG00000000264	Z	48276387	48294204	0	ENSG00000198961	5	108698309 A
463	FER	Gga#S21394241	ENSGALG00000000273	Z	48337851	48485346	1	ENSG00000151422	5	108111422 A
464	AC091435.3-1			Z	48529426	48529361	0	ENSG00000205785	5	38848753 A
465	FBXL17	Gga#S21394239	ENSGALG00000000276	Z	48581814	48600195	0	ENSG00000145743	5	107223348 A
466	EFNA5		ENSGALG00000000280	Z	49109111	49139735	0	ENSG00000184349	5	106744250 A
467	NUDT12	Gga#S35713470	ENSGALG00000015268	Z	50754756	50765384	0	ENSG00000112874	5	102912456 A
468	C5orf30	Gga#S35713469	ENSGALG00000015265	Z	50851570	50852193	1	ENSG00000181751	5	102622341 A
469	HISPPD1	Gga#S21390144	ENSGALG00000015264	Z	50867449	50909809	1	ENSG00000145725	5	102483867 A
470	GIN1	Gga#S21390145	ENSGALG00000015257	Z	50922945	50931198	0	ENSG00000145723	5	102449603 A
471	PAM	Gga#S21390146	ENSGALG00000015256	Z	50939370	50999788	1	ENSG00000145730	5	102229422 A
472	SLCO4C1	Gga#S35713467	ENSGALG00000015251	Z	51151799	51168829	0	ENSG00000173930	5	101597589 A
473	SLCO6A1		ENSGALG00000015251	Z	51171330	51171453	0	ENSG00000205359	5	101735553 A
474	ST8SIA4	Gga#S19183384	ENSGALG00000015245	Z	51541004	51594479	0	ENSG00000113532	5	100170803 A
475	TOPORS		ENSGALG00000020523	Z	51602367	51603296	0	ENSG00000197579	9	32530545 B1
476	FAM174A	Gga#S33768526	ENSGALG00000015243	Z	51703750	51716926	1	ENSG00000174132	5	99898943 A
477	Q9YI73	Gga#S19182973	ENSGALG00000014642	Z	52171039	52216302	0	ENSG00000153922	5	98218819 A
478	RGMB	Gga#S21390142	ENSGALG00000015284	Z	52232820	52244515	1	ENSG00000174136	5	98132900 A

479	RIOK2	Gga#S22980533	ENSGALG00000015288	Z	52433158	52444712	0	ENSG00000058729	5	96524397	A
480	LIX1	Gga#S19183438	ENSGALG00000015290	Z	52447600	52475883	0	ENSG00000145721	5	96453331	A
481	LNPEP	Gga#S21390140	ENSGALG00000015301	Z	52497506	52534127	1	ENSG000000113441	5	96296854	A
482	SHB	Gga#S21390139	ENSGALG00000015302	Z	52619106	52669729	0	ENSG00000107338	9	37578417	A
483	RNF38	Gga#S21390138	ENSGALG00000015311	Z	52860161	52884300	0	ENSG00000137075	9	36326401	A
484	TRIM14	Gga#S22196601	ENSGALG00000015315	Z	52898712	52905831	0	ENSG00000106785	9	99871395	A
485	NANS	Gga#S22197931	ENSGALG00000015320	Z	52909475	52927789	1	ENSG00000095380	9	99858842	A
486	CLTA	Gga#S7022146	ENSGALG00000015326	Z	52935223	52949670	0	ENSG00000122705	9	36180892	A
487	GNE	Gga#S23831006	ENSGALG00000015331	Z	52955730	52990871	1	ENSG00000159921	9	36204430	A
488	CPLX1	Gga#S7081596	ENSGALG00000015332	Z	53209391	53231697	0	ENSG00000168993	4	768,746	B3a
489	PCGF3	Gga#S21390132	ENSGALG00000015333	Z	53512279	53536311	1	ENSG00000185619	4	689573	B3a
490	CHRN3	Gga#S19183201	ENSGALG00000015384	Z	53604801	53749371	0	ENSG00000147432	8	42,671,719	B3a
491	U632B	Gga#S19722641	ENSGALG00000015337	Z	53790867	53873651	1	ENSG00000186854	2	84902285	B3a
492	PIGG	Gga#S21390129	ENSGALG00000015349	Z	54117240	54117240	1	ENSG00000174227	4	483010	B3a
493	HOOK3	Gga#S35713463	ENSGALG00000015390	Z	54269799	54300335	0	ENSG00000168172	8	42871190	B3a
494	KCMF1	Gga#S35713462	ENSGALG00000015391	Z	54317186	54360166	1	ENSG00000176407	2	85051727	B3a
495	FNTA	Gga#S21390120	ENSGALG00000015397	Z	54384193	54393539	1	ENSG00000168522	8	43030599	B3a
496	FUT10	Gga#S10817583	ENSGALG00000015399	Z	54400778	54409177	0	ENSG00000172728	8	33347884	B3a
497	NRG1	Gga#S19183235	ENSGALG00000015422	Z	54499792	54528995	1	ENSG00000157168	8	31617043	B3a
498	LIP1	Gga#S20923106	ENSGALG00000015425	Z	55070219	55084620	1	ENSG00000175445	8	19840870	B3a
499	PSD3	Gga#S35713460	ENSGALG00000015428	Z	55130416	55215236	1	ENSG00000156011	8	18429093	B3a
500	NIPSNAP3B	Gga#S21390118	ENSGALG00000015430	Z	55254072	55262461	0	ENSG00000165028	9	106566272	A
501	NIPSNAP3A		ENSGALG00000015430	Z	55255595	55262458	0	ENSG00000136783	9	106549786	A
502	ABCA1	Gga#S19183258	ENSGALG00000015433	Z	55267049	55343041	1	ENSG00000165029	9	106583104	A
503	SLC44A1	Gga#S35713459	ENSGALG00000015439	Z	55476287	55521394	0	ENSG00000070214	9	107046724	A
504	FKTN	Gga#S21390115	ENSGALG00000015443	Z	55549504	55600065	0	ENSG00000106692	9	107360232	A
505	FSD1L		ENSGALG00000015442	Z	55553358	55575629	0	ENSG00000106701	9	107250146	A
506	TAL2	Gga#S21390114	ENSGALG00000023114	Z	55613173	55626428	0	ENSG00000186051	9	107464559	A
507	TMEM38B	Gga#S18956107	ENSGALG00000015447	Z	55641266	55653978	0	ENSG00000095209	9	107496646	A
508	ZNF462	Gga#S21390106	ENSGALG00000015451	Z	56038738	56088721	0	ENSG00000148143	9	108665199	A
509	RAD23B	Gga#S21390105	ENSGALG00000015540	Z	56167663	56201918	0	ENSG00000119318	9	109085365	A
510	KLF4	Gga#S35712320		Z	56225597	56246903	1	ENSG00000136826	9	109286954	A
511	PHF7-like	Gga#S14762358	ENSGALG00000005023	Z	56607183	56697147	1	ENSGALG00000005023			B1
512	RNUXA	Gga#S22197733	ENSGALG00000014691	Z	56809755	56830010	0	ENSG00000164902	5	125964532	A
513	LMNB1	Gga#S19183064	ENSGALG00000014692	Z	56853516	56876328	0	ENSG000000113368	5	126140732	A
514	3-Mar	Gga#S21430556	ENSGALG00000014693	Z	56884148	56909636	1	ENSG00000173926	5	126233454	A
515	YD286	Gga#S16114692	ENSGALG00000023109	Z	56959897	56967452	1	ENSG00000164241	5	126415368	A
516	MEGF10	Gga#S21390351	ENSGALG00000014699	Z	57014806	57086602	0	ENSG00000145794	5	126654514	A
517	PRRC1	Gga#S23830889	ENSGALG00000014703	Z	57104223	57122684	0	ENSG00000164244	5	126881238	A
518	CTXN3	Gga#S21512692	ENSGALG00000023106	Z	57164117	57164296	0	ENSG00000205279	5	127012635	A
519	SLC12A2	Gga#S35713455	ENSGALG00000014690	Z	57332497	57384360	0	ENSG00000064651	5	127447382	A
520	Q9PUC7	Gga#S21390359	ENSGALG00000014686	Z	57405152	57564801	1	ENSG00000138829	5	127621500	A
521	Q5F3N8	Gga#S35713454	ENSGALG00000014684	Z	57644105	57657051	0	ENSG00000164307	5	96122270	A
522	LRAP			Z	57644515	57652105	0	ENSG00000164308	5	96237960	A
523	CAST	Gga#S21390361	ENSGALG00000014682	Z	57661110	57713801	1	ENSG00000153113	5	96023533	A
524	ELL2	Gga#S21390363	ENSGALG00000014678	Z	57823409	57876479	0	ENSG00000118985	5	95246560	A
525	GLRX1L	Gga#S24577812	ENSGALG00000014676	Z	57901244	57904236	0	ENSG00000173221	5	95175431	A
526	GLRX1		ENSGALG00000014676	Z	57901369	57904233	0	ENSG00000118990	5	161110059	A
527	RHOBTB3	Gga#S22197143	ENSGALG00000014675	Z	57917986	57981871	1	ENSG00000164292	5	95092606	A
528	RFESD		ENSGALG00000014673	Z	57965175	57965424	0	ENSG00000175449	5	95008239	A
529	ARSK		ENSGALG00000014672	Z	57971485	57981127	0	ENSG00000164291	5	94916581	A
530	TTC37	Gga#S21390368	ENSGALG00000014670	Z	57983325	57999067	0	ENSG00000198677	5	94825355	A
531	FAM81B	Gga#S21390356	ENSGALG00000014669	Z	58030722	58063731	1	ENSG00000153347	5	94752804	A
532	MCTP1	Gga#S21390369	ENSGALG00000014668	Z	58181266	58244548	0	ENSG00000175471	5	94068957	A
533	ANKRD32	Gga#S21390371	ENSGALG00000014667	Z	58367976	58406091	1	ENSG00000133302	5	93979808	A
534	KIAA0825	Gga#S35713452	ENSGALG00000014664	Z	58430591	58453393	0	ENSG00000175483	5	93774435	A
535	C5orf36			Z	58452718	58453390	0	ENSG00000185261	5	93880683	A
536	AC104127.2			Z	58516419	58520380	0	ENSG00000218494	5	93515468	A
537	AL159169.14			Z	58516420	58516551	0	ENSG00000215261	9	14545513	A
538	FAM127A	Gga#S22197097	ENSGALG00000014661	Z	58671520	58718184	0	ENSG00000113391	5	92979531	A

539	AC106818.2		Z	58926024	58926257	0	ENSG00000205434	5	92961819	A
540	NR2F1	Gga#S21512816	Z	58932511	58940805	1	ENSG00000175745	5	92944799	A
541	ARRDC3	Gga#S21390377	Z	59915827	59926569	0	ENSG00000113369	5	90700299	A
542	GPR98	Gga#S18609689	Z	60005948	60247627	1	ENSG00000164199	5	89890373	A
543	LYSM3	Gga#S22197253	Z	60271243	60273884	0	ENSG00000176018	5	89847200	A
544	POLR3G		Z	60279514	60293048	0	ENSG00000113356	5	89806437	A
545	MBLC2	Gga#S23830745	Z	60299932	60316205	0	ENSG00000176055	5	89789778	A
546	CETN3	Gga#S33762838	Z	60319272	60335348	0	ENSG00000153140	5	89725287	A
547	MEF2C	Gga#S35713449	Z	61006062	61019285	0	ENSG00000081189	5	88051922	A
548	LOC645323	mir	Z	61048183	61048693	0	ENSG00000207570	5	87096020	A
549	cZorf17	Gga#S19789066	Z	61052944	61053228	0				B1
550	TMEM161B	Gga#S21385865	Z	61174226	61208259	0	ENSG00000164180	5	87526779	A
551	CCNH	Gga#S21390080	Z	61382749	61391507	0	ENSG00000134480	5	86725844	A
552	RASA1	Gga#S21390081	Z	61395572	61442268	1	ENSG00000145715	5	86599838	A
553	COX7	Gga#S18613577	Z	61621765	61637322	1	ENSG00000127184	5	85949540	A
554	EDIL3	Gga#S21390082	Z	62677037	62816062	0	ENSG00000164176	5	83273882	A
555	HPLN1	Gga#S19183795	Z	62975431	62997318	0	ENSG00000145681	5	82972502	A
556	CSPG2	Gga#S19551199	Z	63036969	63139071	1	ENSG00000038427	5	82803339	A
557	XRCC4	Gga#S6764692	Z	63268416	63333306	1	ENSG00000152422	5	82409073	A
558	TMEM167A		Z	63365737	63374214	0	ENSG00000174695	5	82387742	A
559	ATP6AP1L	Gga#S21390084	Z	63722635	63738228	1	ENSG00000205464	5	81611037	A
560	RPS23	Gga#S16163113	Z	63743719	63745460	0	ENSG00000186468	5	81604899	A
561	ATG10	Gga#S21390086	Z	63757721	63837549	1	ENSG00000152348	5	81303630	A
562	SSBP2	Gga#S35713446	Z	64030122	64071422	0	ENSG00000145687	5	80751428	A
563	ACOT12	Gga#S21390076	Z	64086779	64117534	0	ENSG00000172497	5	80661580	A
564	ZCCHC9	Gga#S21390088	Z	64121893	64127081	1	ENSG00000131732	5	80633178	A
565	RASGRF2	Gga#S21390089	Z	64135616	64289517	1	ENSG00000113319	5	80292314	A
566	CKMT2		Z	64135618	64150353	0	ENSG00000131730	5	80564895	A
567	MSH3	Gga#S35713445	Z	64320644	64437435	1	ENSG00000113318	5	79986050	A
568	DHFR	Gga#S22980532	Z	64437558	64452725	0		5	79,957,801	A
569	ANKRD34B	Gga#S21390093	Z	64470560	64492615	0	ENSG00000189127	5	79888331	A
570	FAM151B		Z	64477711	64485937	0	ENSG00000152380	5	79819556	A
571	ZFYVE16	Gga#S21390094	Z	64493658	64524680	1	ENSG00000039319	5	79739594	A
572	CCDC125	Gga#S21390096	Z	64531130	64549224	1	ENSG00000183323	5	68612278	A
573	AC145132.2		Z	64547685	64549215	0	ENSG00000185057	5	68683311	A
574	RAD17	Gga#S22196976	Z	64549420	64568810	0	ENSG00000152942	5	68700880	A
575	CCDC81		Z	64824086	64828545	1				B1
576	PHF7		Z	64923606	64926924	1	ENSG0000010318	3	52419567	B3b
577	GRIN3A	Gga#S35713440	Z	65413247	65479999	0	ENSG00000198785	9	103371456	A
578	BRE1A	Gga#S22197676	Z	65486375	65502637	1	ENSG00000155827	9	103335954	A
579	C9orf125	Gga#S21390100	Z	65522004	65523026	0	ENSG00000165152	9	103275274	A
580	ALDOB	Gga#S41350201	Z	65536495	65540131	0	ENSG00000136872	9	103222681	A
581	RM50	Gga#S6830031	Z	65542199	65542834	0	ENSG00000136897	9	103192070	A
582	PPAPR3	Gga#S18956435	Z	65545830	65610841	1	ENSG00000148123	9	102830852	A
583	PHF7		Z	65712165	65762403	1	ENSG0000010318	3	52419567	B3b
584	PALM2		Z	66054047	66108810	0	ENSG00000157654	9	111442893	A
585	AKAP2	Gga#S21390070	Z	66225483	66243499	0	ENSG00000157654	9	111442893	A
586	SLC46A2	Gga#S6753774	Z	66256609	66262040	0	ENSG00000119457	9	114681022	A
587	SNX30	Gga#S21390069	Z	66268598	66317605	1	ENSG00000148158	9	114552955	A
588	CI080	Gga#S29405727	Z	66328245	66337488	0	ENSG00000148153	9	114488618	A
589	KIAA1958	Gga#S21390049	Z	66366436	66387030	1	ENSG00000165185	9	114289069	A
590	HSDL2	Gga#S19183993	Z	66417411	66459965	0	ENSG00000119471	9	114182038	A
591	UGCG	Gga#S21390064	Z	66473592	66498454	1	ENSG00000148154	9	113698867	A
592	C9orf84		Z	66556906	66598827	0	ENSG00000165181	9	113488274	A
593	DNAJC25-GNC	Gga#S35713436	Z	66615726	66622928	1	ENSG00000059769	9	113433453	A
594	KIAA0368	Gga#S21390063	Z	66631560	66679804	0	ENSG00000136813	9	113162793	A
595	SMC2	Gga#S19183884	Z	66683471	66706274	1	ENSG00000136824	9	105896362	A
596	PTGR1	Gga#S22196537	Z	66718539	66726189	0	ENSG00000106853	9	113365074	A
597	TOPORS	Gga#S35713434	Z	66728419	66729981	1	ENSG00000197579	9	32530545	B1
598	THIO	Gga#S6936840	Z	66738618	66743670	1	ENSG00000168454	18	9875723	A

599	TXN		ENSGALG00000015704	Z	66738620	66741096	0	ENSG00000136810	9	112046121	A
600	SVEP1	Gga#S21390061	ENSGALG00000015721	Z	66755902	66895213	1	ENSG00000165124	9	112167352	A
601	MUSK	Gga#S19183224	ENSGALG00000015728	Z	66936215	66986427	0	ENSG00000030304	9	112470960	A
602	LPAR1	Gga#S18605826	ENSGALG00000015729	Z	67030757	67072021	1	ENSG00000198121	9	112675365	A
603	cZorf3	Gga#S20464696	ENSGALG00000015743	Z	67135866	67137490	0	ENSGALG00000015743			B1
604	NPR2		ENSGALG00000015753	Z	67262210	67291298	0	ENSG00000159899	9	35782151	B1
605	PRKACG			Z	67295456	67295163	0	ENSG00000165059	9	70817241	A
606	TMEM215	Gga#S19721868	ENSGALG00000015754	Z	67304854	67305573	1	ENSG00000188133	9	32773497	A
607	TOPORS	Gga#S21390057	ENSGALG00000020523	Z	67334749	67337868	0	ENSG00000197579	9	32530545	A
608	FLNC-like		ENSGALG00000014707	Z	67431089	67439731	0				B1
609	FLNC-like		ENSGALG00000014707	Z	67454863	67488277	1				B1
610	ELAVL2	Gga#S35713431	ENSGALG00000015799	Z	67640308	67712613	1	ENSG00000107105	9	23680102	A
611	FLNC-like		ENSGALG00000014707	Z	68038980	68126270	1				B1
612	HEATR7B2-like	Gga#S21401175	ENSGALG00000022510	Z	68181694	68201693	1				B1
613	AL589843.9			Z	68201881	68201801	0	ENSG00000204328	9	98531217	A
614	HEATR7B2-like		ENSGALG00000016539	Z	68248604	68291789	0				B1
615	HEATR7B2-like		ENSGALG00000017045	Z	68306886	68320418	0				B1
616	HEATR7B2-like	Gga#S35717399		Z	68320942	68341622	1				B1
617	HEATR7B2-like	Gga#S35717392	ENSGALG00000016539	Z	68342923	68352811	0				B1
618	HEATR7B2-like	Gga#S21389337	ENSGALG00000016305	Z	68353493	68379853	1				B1
619	FLNC-like		ENSGALG00000023076	Z	68416411	68422570	0				B1
620	TUSC1		ENSGALG00000017510	Z	68475264	68475489	0	ENSG00000198680	9	25667681	A
621	FLNC-like	Gga#S21390024	ENSGALG00000023076	Z	68481344	68484851	0				B1
622	cZorf8	Gga#S35713430	ENSGALG00000021457	Z	68493506	68499255	0	ENSGALG00000021457			B1
623	cZorf18			Z	68658939	68661707	1				B1
624	FLNC-like			Z	68742706	68758689	0				B1
625	PLAA	Gga#S21390021	ENSGALG00000001782	Z	68763380	68799347	1	ENSG00000137055	9	26894518	A
626	C9orf82		ENSGALG00000001765	Z	68763388	68779646	0	ENSG00000120159	9	26830685	A
627	IFT74	Gga#S18606345	ENSGALG00000001801	Z	68799954	68831136	0	ENSG00000096872	9	26946410	A
628	LIRC19			Z	68805841	68817308	0	ENSG00000184434	9	26983590	A
629	TEK	Gga#S21390018	ENSGALG00000001840	Z	68839484	68874924	0	ENSG00000120156	9	27099286	A
630	cZorf9	Gga#S21274270	ENSGALG00000023074	Z	68877876	68884134	1	ENSGALG00000023074			B1
631	MOBK12B		ENSGALG00000001856	Z	68893975	68939791	1	ENSG00000120162	9	27319129	A
632	C9orf72	Gga#S21390016	ENSGALG00000001864	Z	68994661	68997217	1	ENSG00000147894	9	27536544	A
633	LINGO2	Gga#S21390013	ENSGALG00000001869	Z	69120285	69122106	1	ENSG00000174482	9	27938076	A
634	cZorf1	Gga#S21390015	ENSGALG00000001871	Z	69766395	69769246	0	ENSGALG00000001871			B1
635	D4ST1			Z	70031990	70032313	0		15	38550505	B1
636	cZorf7		ENSGALG00000021452	Z	70612481	70613287	1	ENSGALG00000021452			B1
637	CORO2A	Gga#S21390011	ENSGALG00000001933	Z	70755261	70781411	1	ENSG00000106789	9	99926299	A
638	TBC1D2	Gga#S21390010	ENSGALG00000001944	Z	70808452	70826156	1	ENSG00000095383	9	100001132	A
639	Q5ZJ12	Gga#S22196885	ENSGALG00000001947	Z	70828726	70859950	0	ENSG00000070061	9	110669622	A
640	APT X	Gga#S18344609	ENSGALG00000001954	Z	70862437	70870850	1	ENSG00000137074	9	32962609	A
641	DNAJA1	Gga#S22197006	ENSGALG00000023066	Z	70871418	70877979	0	ENSG00000086061	9	33015242	A
642	SMU1	Gga#S22197901	ENSGALG00000002014	Z	70885347	70922855	1	ENSG00000122692	9	33031850	A
643	HEMGN	Gga#S19788841	ENSGALG00000023061	Z	70934253	70954695	0	ENSG00000136929	9	99728894	A
644	SPINK4		ENSGALG00000021842	Z	70934511	70936260	0	ENSG00000122711	9	33208363	A
645	FOX E1			Z	70956493	71048754	0	ENSG00000178919	9	99655358	A
646	XPA	Gga#S19183988	ENSGALG00000023059	Z	71008924	71014845	0	ENSG00000136936	9	99477013	A
647	NCBP1	Gga#S22197049	ENSGALG00000002087	Z	71018547	71048827	1	ENSG00000136937	9	99435526	A
648	C9orf97	Gga#S21390004	ENSGALG00000002110	Z	71049017	71063060	0	ENSG00000136925	9	99402183	A
649	TMOD1	Gga#S19183024	ENSGALG00000002125	Z	71069570	71085199	1	ENSG00000136842	9	99303742	A
650	TDRD7	Gga#S21387586	ENSGALG000000012350	Z	71090535	71119044	1	ENSG00000196116	9	99214123	A
651	DGKQ	Gga#S21390003	ENSGALG00000002142	Z	71144055	71225245	1	ENSG00000145214	4	942676	B3a
652	IREB1	Gga#S26668021	ENSGALG00000002162	Z	71253152	71277041	0	ENSG00000122729	9	32374618	A
653	FLNC-like	Gga#S21390000	ENSGALG000000021429	Z	71314359	71371431	1				B1
654	PRR16	Gga#S35713418	ENSGALG00000002183	Z	71473437	71475638	1	ENSG00000184838	5	119827918	A
655	HSD17B4	Gga#S19182971	ENSGALG00000002187	Z	71824883	71880000	1	ENSG00000133835	5	118816122	A
656	TFIP8	Gga#S22196431	ENSGALG00000002196	Z	71895405	71906620	1	ENSG00000145779	5	118752897	A
657	DMXL1	Gga#S21389998	ENSGALG00000002227	Z	71945413	71998841	1	ENSG00000172869	5	118434983	A
658	DTWD2	Gga#S22197840	ENSGALG00000002250	Z	72038121	72109569	0	ENSG00000169570	5	118203135	A

659	OURL	Gga#S35713417	Z	72298698	72299198	1			B1
660	SEMA6A	Gga#S21389996	Z	72889583	72950475	0	ENSG00000092421	5	115807150 A
661	COMMD10	Gga#S29404121	Z	73086836	73106860	1	ENSG00000145781	5	115448622 A
662	LAEVERIN		Z	73150779	73151183	1	ENSG00000172901	5	115326170 A
663	AP3S1	Gga#S22196845	Z	73181806	73208280	1	ENSG00000177879	5	115205518 A
664	ATG12	Gga#S33762255	Z	73209804	73211461	0	ENSG00000145782	5	115193714 A
665	CDO1	Gga#S21389992	Z	73220241	73229322	0	ENSG00000129596	5	115168333 A
666	TICAM2	Gga#S22197559	Z	73269208	73275108	0	ENSG00000134970	5	114942238 A
667	MARVELD2	Gga#S21389990	Z	73283097	73289428	0	ENSG00000152939	5	68746699 A
668	GTF2H2		Z	73294960	73305497	0	ENSG00000145736	5	70366717 A
669	GTF2H2C	Gga#S33765061	Z	73294961	73305509	0	ENSG00000183474	5	68891830 A
670	SMN2	Gga#S33763759	Z	73311950	73316153	1	ENSG00000205571	5	69381106 A
671	SMN1		Z	73312795	73316141	0	ENSG00000172062	5	70256524 A
672	SERF1B	Gga#S35713414	Z	73317286	73321027	1	ENSG00000205572	5	69356852 A
673	SERF1A		Z	73317300	73317999	0	ENSG00000172058	5	70232270 A
674	BDP1	Gga#S35713413	Z	73323283	73342300	0	ENSG00000145734	5	70787198 A
675	MCCC2	Gga#S21389988	Z	73378467	73421983	0	ENSG00000131844	5	70918910 A
676	CARTPT		Z	73421628	73421980	0	ENSG00000164326	5	71050750 A
677	KCNN2	Gga#S19184068	Z	73547389	73616384	1	ENSG00000080709	5	113725565 A
678	ADCY10	Gga#S21389984	Z	73695051	73699038	1	ENSG00000143199	1	166045507 B1
679	ADCY10	Gga#S21389984	Z	73716606	73720592	1	ENSG00000143199	1	166045507 B1
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681	ADCY10	Gga#S21389984	Z	73759212	73763199	1	ENSG00000143199	1	166045507 B1
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683	ADCY10	Gga#S21389984	Z	73801592	73805579	1	ENSG00000143199	1	166045507 B1
684	MRPL19		Z	73816665	73819302	1	ENSG00000115364	2	75,727,417 B1
685	C2ORF3	Gga#S21398230	Z	73821257	73828763	0	ENSG00000005436	2	75,742,802 B1
686	MRPL19		Z	73842730	73845373	1	ENSG00000115364	2	75,727,417 B1
687	C2ORF3	Gga#S21398230	Z	73847331	73856135	0	ENSG00000005436	2	75,742,802 B1
688	MRPL19		Z	73916344	73918987	1	ENSG00000115364	2	75,727,417 B1
689	C2ORF3	Gga#S21398230	Z	73920762	73929355	0	ENSG00000005436	2	75,742,802 B1
690	MRPL19		Z	73943959	73946576	1	ENSG00000115364	2	75,727,417 B1
691	C2ORF3	Gga#S21398230	Z	73948530	73956197	0	ENSG00000005436	2	75,742,802 B1
692	MRPL19		Z	73996179	73998828	1	ENSG00000115364	2	75,727,417 B1
693	C2ORF3	Gga#S21398230	Z	74000771	74006894	0	ENSG00000005436	2	75,742,802 B1
694	RICS	Gga#S35715088	Z	74011028	74016962	0	ENSG00000134909	11	128,343,052 B1
695	C2ORF3	Gga#S21398230	Z	74036789	74043220	0	ENSG00000005436	2	75,742,802 B1
696	MRPL19		Z	74092772	74095409	1	ENSG00000115364	2	75,727,417 B1
697	C2ORF3	Gga#S21398230	Z	74097369	74105909	0	ENSG00000005436	2	75,742,802 B1
698	MRPL19		Z	74138718	74141368	1	ENSG00000115364	2	75,727,417 B1
699	C2ORF3	Gga#S21398230	Z	74143304	74151417	0	ENSG00000005436	2	75,742,802 B1
700	MRPL19		Z	74193678	74196341	1	ENSG00000115364	2	75,727,417 B1
701	C2ORF3	Gga#S21398230	Z	74198298	74206607	0	ENSG00000005436	2	75,742,802 B1
702	MRPL19		Z	74230880	74233522	1	ENSG00000115364	2	75,727,417 B1
703	C2ORF3	Gga#S21398230	Z	74235458	74242632	0	ENSG00000005436	2	75,742,802 B1
704	RICS	Gga#S35715088	Z	74307171	74313473	0	ENSG00000134909	11	128,343,052 B1
705	MRPL19		Z	74319344	74321086	1	ENSG00000115364	2	75,727,417 B1
706	C2ORF3	Gga#S21398230	Z	74323027	74331151	0	ENSG00000005436	2	75,742,802 B1
707	MRPL19		Z	74345722	74348344	1	ENSG00000115364	2	75,727,417 B1
708	C2ORF3	Gga#S21398230	Z	74350287	74358843	0	ENSG00000005436	2	75,742,802 B1
709	RICS	Gga#S35715088	Z	74362537	74368706	0	ENSG00000134909	11	128,343,052 B1
710	MRPL19		Z	74373072	74374828	1	ENSG00000115364	2	75,727,417 B1
711	C2ORF3	Gga#S21398230	Z	74376783	74385691	0	ENSG00000005436	2	75,742,802 B1
712	MRPL19		Z	74400072	74402733	1	ENSG00000115364	2	75,727,417 B1
713	C2ORF3	Gga#S21398230	Z	74404606	74413986	0	ENSG00000005436	2	75,742,802 B1
714	MRPL19		Z	74446793	74449456	1	ENSG00000115364	2	75,727,417 B1
715	C2ORF3	Gga#S21398230	Z	74451393	74459459	0	ENSG00000005436	2	75,742,802 B1
716	MRPL19		Z	74495534	74497360	1	ENSG00000115364	2	75,727,417 B1
717	C2ORF3	Gga#S21398230	Z	74499314	74506368	0	ENSG00000005436	2	75,742,802 B1
718	MRPL19		Z	74520495	74523147	1	ENSG00000115364	2	75,727,417 B1

719	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	74525108	74531755	0	ENSG00000005436	2	75,742,802	B1
720	MRPL19			Z	74546714	74549357	1	ENSG00000115364	2	75,727,417	B1
721	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	74551319	74559403	0	ENSG00000005436	2	75,742,802	B1
722	RICS	Gga#S35715088	ENSGALG00000022113	Z	74585095	74591181	0	ENSG00000134909	11	128,343,052	B1
723	MRPL19			Z	74615699	74618352	1	ENSG00000115364	2	75,727,417	B1
724	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	74620308	74627801	0	ENSG00000005436	2	75,742,802	B1
725	MRPL19			Z	74645744	74648371	1	ENSG00000115364	2	75,727,417	B1
726	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	74650306	74656290	0	ENSG00000005436	2	75,742,802	B1
727	MRPL19			Z	74673047	74675672	1	ENSG00000115364	2	75,727,417	B1
728	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	74677614	74684867	0	ENSG00000005436	2	75,742,802	B1
729	RICS	Gga#S35715088	ENSGALG00000022113	Z	74699924	74705841	0	ENSG00000134909	11	128,343,052	B1
730	MRPL19			Z	74712063	74714708	1	ENSG00000115364	2	75,727,417	B1
731	RICS	Gga#S35715088	ENSGALG00000022113	Z	74740504	74746391	0	ENSG00000134909	11	128,343,052	B1
732	RICS	Gga#S35715088	ENSGALG00000022113	Z	75808552	75814748	1	ENSG00000134909	11	128,343,052	B1
733	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	75819948	75826723	1	ENSG00000005436	2	75,742,802	B1
734	MRPL19			Z	75828678	75831341	0	ENSG00000115364	2	75,727,417	B1
735	RICS	Gga#S35715088	ENSGALG00000022113	Z	75837523	75843435	1	ENSG00000134909	11	128,343,052	B1
736	RICS	Gga#S35715088	ENSGALG00000022113	Z	75855812	75862066	1	ENSG00000134909	11	128,343,052	B1
737	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	75865799	75873948	1	ENSG00000005436	2	75,742,802	B1
738	MRPL19			Z	75875884	75878543	0	ENSG00000115364	2	75,727,417	B1
739	RICS	Gga#S35715088	ENSGALG00000022113	Z	75883329	75889673	1	ENSG00000134909	11	128,343,052	B1
740	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	75893368	75901132	1	ENSG00000005436	2	75,742,802	B1
741	MRPL19			Z	75902997	75905641	0	ENSG00000115364	2	75,727,417	B1
742	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	75908035	75901132	1	ENSG00000005436	2	75,742,802	B1
743	RICS	Gga#S35715088	ENSGALG00000022113	Z	75910277	75916240	1	ENSG00000134909	11	128,343,052	B1
744	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	75930663	75937116	1	ENSG00000005436	2	75,742,802	B1
745	MRPL19			Z	75939057	75941715	0	ENSG00000115364	2	75,727,417	B1
746	RICS	Gga#S35715088	ENSGALG00000022113	Z	75947234	75953082	1	ENSG00000134909	11	128,343,052	B1
747	RICS	Gga#S35715088	ENSGALG00000022113	Z	75967446	75973757	1	ENSG00000134909	11	128,343,052	B1
748	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	75977518	75986718	1	ENSG00000005436	2	75,742,802	B1
749	MRPL19			Z	75988312	75990923	0	ENSG00000115364	2	75,727,417	B1
750	RICS	Gga#S35715088	ENSGALG00000022113	Z	75995300	76001670	1	ENSG00000134909	11	128,343,052	B1
751	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	76005095	76011391	1	ENSG00000005436	2	75,742,802	B1
752	MRPL19			Z	76013322	76015959	0	ENSG00000115364	2	75,727,417	B1
753	RICS	Gga#S35715088	ENSGALG00000022113	Z	76020375	76026796	1	ENSG00000134909	11	128,343,052	B1
754	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	76029333	76036983	1	ENSG00000005436	2	75,742,802	B1
755	MRPL19			Z	76038926	76041587	0	ENSG00000115364	2	75,727,417	B1
756	RICS	Gga#S35715088	ENSGALG00000022113	Z	76048046	76053938	1	ENSG00000134909	11	128,343,052	B1
757	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	76057685	76065029	1	ENSG00000005436	2	75,742,802	B1
758	MRPL19			Z	76067785	76070422	0	ENSG00000115364	2	75,727,417	B1
759	RICS	Gga#S35715088	ENSGALG00000022113	Z	76076327	76082418	1	ENSG00000134909	11	128,343,052	B1
760	RICS	Gga#S35715088	ENSGALG00000022113	Z	76095003	76101326	1	ENSG00000134909	11	128,343,052	B1
761	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	76104953	76111541	1	ENSG00000005436	2	75,742,802	B1
762	MRPL19			Z	76113502	76116129	0	ENSG00000115364	2	75,727,417	B1
763	RICS	Gga#S35715088	ENSGALG00000022113	Z	76119420	76125630	1	ENSG00000134909	11	128,343,052	B1
764	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	76130222	76138965	1	ENSG00000005436	2	75,742,802	B1
765	MRPL19			Z	76140887	76143367	0	ENSG00000115364	2	75,727,417	B1
766	RICS	Gga#S35715088	ENSGALG00000022113	Z	76148157	76154223	1	ENSG00000134909	11	128,343,052	B1
767	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	76158097	76168896	1	ENSG00000005436	2	75,742,802	B1
768	MRPL19			Z	76170855	76143367	0	ENSG00000115364	2	75,727,417	B1
769	RICS	Gga#S35715088	ENSGALG00000022113	Z	76178127	76184188	1	ENSG00000134909	11	128,343,052	B1
770	RICS	Gga#S35715088	ENSGALG00000022113	Z	76197324	76202880	1	ENSG00000134909	11	128,343,052	B1
771	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	76209795	76218338	1	ENSG00000005436	2	75,742,802	B1
772	MRPL19			Z	76220277	76222928	0	ENSG00000115364	2	75,727,417	B1
773	RICS	Gga#S35715088	ENSGALG00000022113	Z	76227549	76233892	1	ENSG00000134909	11	128,343,052	B1
774	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	76248684	76257542	1	ENSG00000005436	2	75,742,802	B1
775	MRPL19			Z	76259441	76262075	0	ENSG00000115364	2	75,727,417	B1
776	RICS	Gga#S35715088	ENSGALG00000022113	Z	76266737	76272472	1	ENSG00000134909	11	128,343,052	B1
777	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	76282995	76292595	1	ENSG00000005436	2	75,742,802	B1
778	MRPL19			Z	76294363	76297039	0	ENSG00000115364	2	75,727,417	B1

779	RICS	Gga#S35715088	ENSGALG00000022113	Z	76301840	76307588	1	ENSG00000134909	11	128,343,052	B1
780	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	76317626	76326372	1	ENSG00000005436	2	75,742,802	B1
781	MRPL19			Z	76328316	76330956	0	ENSG00000115364	2	75,727,417	B1
782	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	76335284	76342783	1	ENSG00000005436	2	75,742,802	B1
783	MRPL19			Z	76344722	76346002	0	ENSG00000115364	2	75,727,417	B1
784	RICS	Gga#S35715088	ENSGALG00000022113	Z	76350596	76356887	1	ENSG00000134909	11	128,343,052	B1
785	RICS	Gga#S35715088	ENSGALG00000022113	Z	76371588	76377106	1	ENSG00000134909	11	128,343,052	B1
786	RICS	Gga#S35715088	ENSGALG00000022113	Z	76393405	76399648	1	ENSG00000134909	11	128,343,052	B1
787	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	76402967	76409733	1	ENSG00000005436	2	75,742,802	B1
788	MRPL19			Z	76411669	76414309	0	ENSG00000115364	2	75,727,417	B1
789	RICS	Gga#S35715088	ENSGALG00000022113	Z	76418987	76424641	1	ENSG00000134909	11	128,343,052	B1
790	RICS	Gga#S35715088	ENSGALG00000022113	Z	76437110	76443425	1	ENSG00000134909	11	128,343,052	B1
791	RICS	Gga#S35715088	ENSGALG00000022113	Z	76454769	76460708	1	ENSG00000134909	11	128,343,052	B1
792	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	76463960	76470532	1	ENSG00000005436	2	75,742,802	B1
793	MRPL19			Z	76472494	76475153	0	ENSG00000115364	2	75,727,417	B1
794	AAK1	Gga#S19647549		Z	76475021	76523237	0	ENSG00000115977	2	69,542,036	B1
795	RICS	Gga#S35715088	ENSGALG00000022113	Z	76479951	76486007	1	ENSG00000134909	11	128,343,052	B1
796	RICS	Gga#S35715088	ENSGALG00000022113	Z	76499056	76505164	1	ENSG00000134909	11	128,343,052	B1
797	RICS	Gga#S35715088	ENSGALG00000022113	Z	76517221	76523240	1	ENSG00000134909	11	128,343,052	B1
798	AAK1			Z	76525150	76530275	0	ENSG00000115977	2	69,542,036	B1
799	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	76530629	76534097	1	ENSG00000005436	2	75,742,802	B1
800	MRPL19			Z	76540273	76542936	0	ENSG00000115364	2	75,727,417	B1
801	RICS	Gga#S35715088	ENSGALG00000022113	Z	76550003	76555686	1	ENSG00000134909	11	128,343,052	B1
802	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	76558978	76566980	1	ENSG00000005436	2	75,742,802	B1
803	MRPL19			Z	76568933	76616720	0	ENSG00000115364	2	75,727,417	B1
804	RICS	Gga#S35715088	ENSGALG00000022113	Z	76576393	76582642	1	ENSG00000134909	11	128,343,052	B1
805	RICS	Gga#S35715088	ENSGALG00000022113	Z	76595970	76601845	1	ENSG00000134909	11	128,343,052	B1
806	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	76605344	76613236	1	ENSG00000005436	2	75,742,802	B1
807	RICS	Gga#S35715088	ENSGALG00000022113	Z	76620657	76626522	1	ENSG00000134909	11	128,343,052	B1
808	RICS	Gga#S35715088	ENSGALG00000022113	Z	76637455	76643071	1	ENSG00000134909	11	128,343,052	B1
809	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	76646821	76654723	1	ENSG00000005436	2	75,742,802	B1
810	MRPL19			Z	76656699	76659331	0	ENSG00000115364	2	75,727,417	B1
811	RICS	Gga#S35715088	ENSGALG00000022113	Z	76662632	76668613	1	ENSG00000134909	11	128,343,052	B1
812	RICS	Gga#S35715088	ENSGALG00000022113	Z	76688494	76690346	1	ENSG00000134909	11	128,343,052	B1
813	RICS	Gga#S35715088	ENSGALG00000022113	Z	76690556	76694658	1	ENSG00000134909	11	128,343,052	B1
814	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	76698368	76705249	1	ENSG00000005436	2	75,742,802	B1
815	MRPL19			Z	76708133	76710793	0	ENSG00000115364	2	75,727,417	B1
816	RICS	Gga#S35715088	ENSGALG00000022113	Z	76715417	76721713	1	ENSG00000134909	11	128,343,052	B1
817	RICS	Gga#S35715088	ENSGALG00000022113	Z	76738989	76745055	1	ENSG00000134909	11	128,343,052	B1
818	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	76748529	76752232	1	ENSG00000005436	2	75,742,802	B1
819	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	76754084	76761976	1	ENSG00000005436	2	75,742,802	B1
820	RICS	Gga#S35715088	ENSGALG00000022113	Z	76769210	76775276	1	ENSG00000134909	11	128,343,052	B1
821	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	76778761	76786425	1	ENSG00000005436	2	75,742,802	B1
822	MRPL19			Z	76788363	76791011	0	ENSG00000115364	2	75,727,417	B1
823	RICS	Gga#S35715088	ENSGALG00000022113	Z	76795656	76801515	1	ENSG00000134909	11	128,343,052	B1
824	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	76805390	76812408	1	ENSG00000005436	2	75,742,802	B1
825	MRPL19			Z	76814389	76817030	0	ENSG00000115364	2	75,727,417	B1
826	RICS	Gga#S35715088	ENSGALG00000022113	Z	76821676	76827669	1	ENSG00000134909	11	128,343,052	B1
827	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	76831835	76839372	1	ENSG00000005436	2	75,742,802	B1
828	MRPL19			Z	76841328	76843978	0	ENSG00000115364	2	75,727,417	B1
829	RICS	Gga#S35715088	ENSGALG00000022113	Z	76848612	76854456	1	ENSG00000134909	11	128,343,052	B1
830	RICS	Gga#S35715088	ENSGALG00000022113	Z	76865841	76872153	1	ENSG00000134909	11	128,343,052	B1
831	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	76875112	76876066	1	ENSG00000005436	2	75,742,802	B1
832	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	76875997	76882848	1	ENSG00000005436	2	75,742,802	B1
833	MRPL19			Z	76884790	76887433	0	ENSG00000115364	2	75,727,417	B1
834	RICS	Gga#S35715088	ENSGALG00000022113	Z	76894596	76900910	1	ENSG00000134909	11	128,343,052	B1
835	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	76904316	76913509	1	ENSG00000005436	2	75,742,802	B1
836	MRPL19			Z	76915444	76918090	0	ENSG00000115364	2	75,727,417	B1
837	RICS	Gga#S35715088	ENSGALG00000022113	Z	76923614	76929675	1	ENSG00000134909	11	128,343,052	B1
838	RICS	Gga#S35715088	ENSGALG00000022113	Z	76946827	76952655	1	ENSG00000134909	11	128,343,052	B1

839	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	76956974	76958904	1	ENSG00000005436	2	75,742,802	B1
840	MRPL19			Z	76964253	76966895	0	ENSG00000115364	2	75,727,417	B1
841	RICS	Gga#S35715088	ENSGALG00000022113	Z	76972941	76978915	1	ENSG00000134909	11	128,343,052	B1
842	RICS	Gga#S35715088	ENSGALG00000022113	Z	76989720	76995631	1	ENSG00000134909	11	128,343,052	B1
843	RICS	Gga#S35715088	ENSGALG00000022113	Z	77012894	77018983	1	ENSG00000134909	11	128,343,052	B1
844	RICS	Gga#S35715088	ENSGALG00000022113	Z	77027992	77034078	1	ENSG00000134909	11	128,343,052	B1
845	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	77037573	77045046	1	ENSG00000005436	2	75,742,802	B1
846	MRPL19			Z	77047930	77050586	0	ENSG00000115364	2	75,727,417	B1
847	RICS	Gga#S35715088	ENSGALG00000022113	Z	77055363	77061355	1	ENSG00000134909	11	128,343,052	B1
848	RICS	Gga#S35715088	ENSGALG00000022113	Z	77074876	77080989	1	ENSG00000134909	11	128,343,052	B1
849	RICS	Gga#S35715088	ENSGALG00000022113	Z	77091364	77097486	1	ENSG00000134909	11	128,343,052	B1
850	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	77101213	77104010	1	ENSG00000005436	2	75,742,802	B1
851	MRPL19			Z	77109959	77112606	0	ENSG00000115364	2	75,727,417	B1
852	RICS	Gga#S35715088	ENSGALG00000022113	Z	77115873	77121786	1	ENSG00000134909	11	128,343,052	B1
853	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	77128846	77136156	1	ENSG00000005436	2	75,742,802	B1
854	MRPL19			Z	77139062	77141408	0	ENSG00000115364	2	75,727,417	B1
855	RICS	Gga#S35715088	ENSGALG00000022113	Z	77147816	77153699	1	ENSG00000134909	11	128,343,052	B1
856	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	77156724	77164737	1	ENSG00000005436	2	75,742,802	B1
857	MRPL19			Z	77166672	77169335	0	ENSG00000115364	2	75,727,417	B1
858	RICS	Gga#S35715088	ENSGALG00000022113	Z	77173273	77179386	1	ENSG00000134909	11	128,343,052	B1
859	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	77191103	77198242	1	ENSG00000005436	2	75,742,802	B1
860	MRPL19			Z	77200243	77202881	0	ENSG00000115364	2	75,727,417	B1
861	RICS	Gga#S35715088	ENSGALG00000022113	Z	77207496	77213450	1	ENSG00000134909	11	128,343,052	B1
862	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	77228014	77234169	1	ENSG00000005436	2	75,742,802	B1
863	MRPL19			Z	77236103	77202881	0	ENSG00000115364	2	75,727,417	B1
864	RICS	Gga#S35715088	ENSGALG00000022113	Z	77246556	77252743	1	ENSG00000134909	11	128,343,052	B1
865	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	77255963	77263717	1	ENSG00000005436	2	75,742,802	B1
866	MRPL19			Z	77265679	77268062	0	ENSG00000115364	2	75,727,417	B1
867	RICS	Gga#S35715088	ENSGALG00000022113	Z	77272807	77279018	1	ENSG00000134909	11	128,343,052	B1
868	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	77283130	77291123	1	ENSG00000005436	2	75,742,802	B1
869	MRPL19			Z	77292948	77295592	0	ENSG00000115364	2	75,727,417	B1
870	RICS	Gga#S35715088	ENSGALG00000022113	Z	77301653	77307644	1	ENSG00000134909	11	128,343,052	B1
871	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	77311401	77319296	1	ENSG00000005436	2	75,742,802	B1
872	MRPL19			Z	77321244	77295592	0	ENSG00000115364	2	75,727,417	B1
873	RICS	Gga#S35715088	ENSGALG00000022113	Z	77329409	77335400	1	ENSG00000134909	11	128,343,052	B1
874	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	77342390	77349481	1	ENSG00000005436	2	75,742,802	B1
875	MRPL19			Z	77351248	77353893	0	ENSG00000115364	2	75,727,417	B1
876	RICS	Gga#S35715088	ENSGALG00000022113	Z	77358526	77364734	1	ENSG00000134909	11	128,343,052	B1
877	RICS	Gga#S35715088	ENSGALG00000022113	Z	77375185	77381254	1	ENSG00000134909	11	128,343,052	B1
878	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	77384227	77393043	1	ENSG00000005436	2	75,742,802	B1
879	MRPL19			Z	77394946	77397622	0	ENSG00000115364	2	75,727,417	B1
880	RICS	Gga#S35715088	ENSGALG00000022113	Z	77404122	77410517	1	ENSG00000134909	11	128,343,052	B1
881	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	77417151	77424962	1	ENSG00000005436	2	75,742,802	B1
882	MRPL19			Z	77426901	77429556	0	ENSG00000115364	2	75,727,417	B1
883	RICS	Gga#S35715088	ENSGALG00000022113	Z	77435330	77441215	1	ENSG00000134909	11	128,343,052	B1
884	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	77451090	77459048	1	ENSG00000005436	2	75,742,802	B1
885	MRPL19			Z	77460833	77463470	0	ENSG00000115364	2	75,727,417	B1
886	RICS	Gga#S35715088	ENSGALG00000022113	Z	77468059	77474174	1	ENSG00000134909	11	128,343,052	B1
887	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	77477224	77483110	1	ENSG00000005436	2	75,742,802	B1
888	MRPL19			Z	77524483	77527147	0	ENSG00000115364	2	75,727,417	B1
889	RICS	Gga#S35715088	ENSGALG00000022113	Z	77531085	77537529	1	ENSG00000134909	11	128,343,052	B1
890	RICS	Gga#S35715088	ENSGALG00000022113	Z	77549205	77555496	1	ENSG00000134909	11	128,343,052	B1
891	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	77559806	77566851	1	ENSG00000005436	2	75,742,802	B1
892	MRPL19			Z	77568813	77527147	0	ENSG00000115364	2	75,727,417	B1
893	RICS	Gga#S35715088	ENSGALG00000022113	Z	77576854	77583352	1	ENSG00000134909	11	128,343,052	B1
894	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	77588089	77595726	1	ENSG00000005436	2	75,742,802	B1
895	MRPL19			Z	77597661	77527147	0	ENSG00000115364	2	75,727,417	B1
896	RICS	Gga#S35715088	ENSGALG00000022113	Z	77604240	77610560	1	ENSG00000134909	11	128,343,052	B1
897	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	77614844	77621577	1	ENSG00000005436	2	75,742,802	B1
898	MRPL19			Z	77623539	77626207	0	ENSG00000115364	2	75,727,417	B1

899	RICS	Gga#S35715088	ENSGALG00000022113	Z	77634580	77640580	1	ENSG00000134909	11	128,343,052	B1
900	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	77644269	77652499	1	ENSG00000005436	2	75,742,802	B1
901	MRPL19			Z	77654438	77657075	0	ENSG00000115364	2	75,727,417	B1
902	RICS	Gga#S35715088	ENSGALG00000022113	Z	77661856	77667822	1	ENSG00000134909	11	128,343,052	B1
903	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	77674448	77681379	1	ENSG00000005436	2	75,742,802	B1
904	MRPL19			Z	77683318	77657075	0	ENSG00000115364	2	75,727,417	B1
905	RICS	Gga#S35715088	ENSGALG00000022113	Z	77690385	77696432	1	ENSG00000134909	11	128,343,052	B1
906	RICS	Gga#S35715088	ENSGALG00000022113	Z	77712524	77718571	1	ENSG00000134909	11	128,343,052	B1
907	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	77723014	77733642	1	ENSG00000005436	2	75,742,802	B1
908	MRPL19			Z	77735581	77657075	0	ENSG00000115364	2	75,727,417	B1
909	RICS	Gga#S35715088	ENSGALG00000022113	Z	77742722	77748828	1	ENSG00000134909	11	128,343,052	B1
910	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	77751704	77760288	1	ENSG00000005436	2	75,742,802	B1
911	MRPL19			Z	77762245	77764890	0	ENSG00000115364	2	75,727,417	B1
912	RICS	Gga#S35715088	ENSGALG00000022113	Z	77769275	77775308	1	ENSG00000134909	11	128,343,052	B1
913	RICS	Gga#S35715088	ENSGALG00000022113	Z	77788766	77794925	1	ENSG00000134909	11	128,343,052	B1
914	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	77801311	77809860	1	ENSG00000005436	2	75,742,802	B1
915	RICS	Gga#S35715088	ENSGALG00000022113	Z	77819216	77824941	1	ENSG00000134909	11	128,343,052	B1
916	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	77828357	77835958	1	ENSG00000005436	2	75,742,802	B1
917	MRPL19			Z	77837938	77840596	0	ENSG00000115364	2	75,727,417	B1
918	RICS	Gga#S35715088	ENSGALG00000022113	Z	77845223	77850933	1	ENSG00000134909	11	128,343,052	B1
919	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	77854354	77861378	1	ENSG00000005436	2	75,742,802	B1
920	MRPL19			Z	77863311	77865970	0	ENSG00000115364	2	75,727,417	B1
921	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	77871705	77877961	1	ENSG00000005436	2	75,742,802	B1
922	MRPL19			Z	77879718	77882367	0	ENSG00000115364	2	75,727,417	B1
923	RICS	Gga#S35715088	ENSGALG00000022113	Z	77886821	77893217	1	ENSG00000134909	11	128,343,052	B1
924	RICS	Gga#S35715088	ENSGALG00000022113	Z	77906751	77912635	1	ENSG00000134909	11	128,343,052	B1
925	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	77931822	77937966	1	ENSG00000005436	2	75,742,802	B1
926	MRPL19			Z	77939908	77942255	0	ENSG00000115364	2	75,727,417	B1
927	RICS	Gga#S35715088	ENSGALG00000022113	Z	77948403	77954607	1	ENSG00000134909	11	128,343,052	B1
928	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	77959120	77967967	1	ENSG00000005436	2	75,742,802	B1
929	MRPL19			Z	77969927	77972568	0	ENSG00000115364	2	75,727,417	B1
930	RICS	Gga#S35715088	ENSGALG00000022113	Z	77978021	77984035	1	ENSG00000134909	11	128,343,052	B1
931	RICS	Gga#S35715088	ENSGALG00000022113	Z	78001389	78007512	1	ENSG00000134909	11	128,343,052	B1
932	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	78011567	78018821	1	ENSG00000005436	2	75,742,802	B1
933	MRPL19			Z	78020759	78023418	0	ENSG00000115364	2	75,727,417	B1
934	RICS	Gga#S35715088	ENSGALG00000022113	Z	78032122	78038717	1	ENSG00000134909	11	128,343,052	B1
935	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	78053085	78060205	1	ENSG00000005436	2	75,742,802	B1
936	MRPL19			Z	78062143	78064806	0	ENSG00000115364	2	75,727,417	B1
937	RICS	Gga#S35715088	ENSGALG00000022113	Z	78069460	78075522	1	ENSG00000134909	11	128,343,052	B1
938	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	78078486	78085990	1	ENSG00000005436	2	75,742,802	B1
939	MRPL19			Z	78087928	78090591	0	ENSG00000115364	2	75,727,417	B1
940	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	79094872	79103080	0	ENSG00000005436	2	75,742,802	B1
941	MRPL19			Z	79122574	79125199	1	ENSG00000115364	2	75,727,417	B1
942	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	79127137	79134421	0	ENSG00000005436	2	75,742,802	B1
943	MRPL19			Z	79157414	79158752	1	ENSG00000115364	2	75,727,417	B1
944	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	79160692	79164508	0	ENSG00000005436	2	75,742,802	B1
945	RICS	Gga#S35715088	ENSGALG00000022113	Z	79214876	79220743	0	ENSG00000134909	11	128,343,052	B1
946	MRPL19			Z	79225773	79228430	1	ENSG00000115364	2	75,727,417	B1
947	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	79229819	79237855	0	ENSG00000005436	2	75,742,802	B1
948	RICS	Gga#S35715088	ENSGALG00000022113	Z	79242072	79247963	0	ENSG00000134909	11	128,343,052	B1
949	MRPL19			Z	79291811	79294456	1	ENSG00000115364	2	75,727,417	B1
950	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	79296227	79303204	0	ENSG00000005436	2	75,742,802	B1
951	RICS	Gga#S35715088	ENSGALG00000022113	Z	79307481	79313382	0	ENSG00000134909	11	128,343,052	B1
952	MRPL19			Z	79318997	79321642	1	ENSG00000115364	2	75,727,417	B1
953	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	79323580	79329987	0	ENSG00000005436	2	75,742,802	B1
954	MRPL19			Z	79344982	79347645	1	ENSG00000115364	2	75,727,417	B1
955	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	79349607	79356857	0	ENSG00000005436	2	75,742,802	B1
956	MRPL19			Z	79371223	79373036	2	ENSG00000115364	2	75,727,417	B1
957	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	79374630	79382756	0	ENSG00000005436	2	75,742,802	B1
958	MRPL19			Z	79379360	79373036	1	ENSG00000115364	2	75,727,417	B1

959	MRPL19			Z	79396195	79398851	1	ENSG00000115364	2	75,727,417	B1
960	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	79400636	79408017	0	ENSG00000005436	2	75,742,802	B1
961	MRPL19			Z	79423729	79426370	1	ENSG00000115364	2	75,727,417	B1
962	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	79428201	79436538	0	ENSG00000005436	2	75,742,802	B1
963	MRPL19			Z	79488067	79490742	1	ENSG00000115364	2	75,727,417	B1
964	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	79492698	79500625	0	ENSG00000005436	2	75,742,802	B1
965	MRPL19			Z	79579755	79582422	1	ENSG00000115364	2	75,727,417	B1
966	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	79584382	79591214	0	ENSG00000005436	2	75,742,802	B1
967	MRPL19			Z	79716628	79719253	1	ENSG00000115364	2	75,727,417	B1
968	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	79721216	79727501	0	ENSG00000005436	2	75,742,802	B1
969	MRPL19			Z	79764061	79766505	1	ENSG00000115364	2	75,727,417	B1
970	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	79768291	79775644	0	ENSG00000005436	2	75,742,802	B1
971	RICS	Gga#S35715088	ENSGALG00000022113	Z	79783843	79789756	0	ENSG00000134909	11	128,343,052	B1
972	MRPL19			Z	79793019	79795658	1	ENSG00000115364	2	75,727,417	B1
973	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	79797594	79804403	0	ENSG00000005436	2	75,742,802	B1
974	MRPL19			Z	79820024	79822643	1	ENSG00000115364	2	75,727,417	B1
975	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	79824605	79831446	0	ENSG00000005436	2	75,742,802	B1
976	MRPL19			Z	79846526	79849167	1	ENSG00000115364	2	75,727,417	B1
977	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	79851105	79857767	0	ENSG00000005436	2	75,742,802	B1
978	MRPL19			Z	79893555	79896215	1	ENSG00000115364	2	75,727,417	B1
979	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	79898151	79906623	0	ENSG00000005436	2	75,742,802	B1
980	MRPL19			Z	79920823	79923473	1	ENSG00000115364	2	75,727,417	B1
981	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	79925429	79932965	0	ENSG00000005436	2	75,742,802	B1
982	MRPL19			Z	79954660	79957301	1	ENSG00000115364	2	75,727,417	B1
983	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	79959168	79966638	0	ENSG00000005436	2	75,742,802	B1
984	MRPL19			Z	80007115	80009777	1	ENSG00000115364	2	75,727,417	B1
985	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	80011718	80020048	0	ENSG00000005436	2	75,742,802	B1
986	MRPL19			Z	80042298	80044677	1	ENSG00000115364	2	75,727,417	B1
987	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	80046628	80053327	0	ENSG00000005436	2	75,742,802	B1
988	RICS	Gga#S35715088	ENSGALG00000022113	Z	80058082	80063980	0	ENSG00000134909	11	128,343,052	B1
989	MRPL19			Z	80069254	80070575	1	ENSG00000115364	2	75,727,417	B1
990	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	80072529	80081302	0	ENSG00000005436	2	75,742,802	B1
991	MRPL19			Z	80095929	80097261	1	ENSG00000115364	2	75,727,417	B1
992	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	80099199	80106963	0	ENSG00000005436	2	75,742,802	B1
993	RICS	Gga#S35715088	ENSGALG00000022113	Z	80110372	80116506	0	ENSG00000134909	11	128,343,052	B1
994	MRPL19			Z	80121140	80123777	1	ENSG00000115364	2	75,727,417	B1
995	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	80125713	80133628	0	ENSG00000005436	2	75,742,802	B1
996	MRPL19			Z	80147228	80148969	1	ENSG00000115364	2	75,727,417	B1
997	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	80150929	80159802	0	ENSG00000005436	2	75,742,802	B1
998	RICS	Gga#S35715088	ENSGALG00000022113	Z	80181531	80187603	0	ENSG00000134909	11	128,343,052	B1
999	MRPL19			Z	80192367	80195005	1	ENSG00000115364	2	75,727,417	B1
1000	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	80196947	80202696	0	ENSG00000005436	2	75,742,802	B1
1001	RICS	Gga#S35715088	ENSGALG00000022113	Z	80217077	80187603	1	ENSG00000134909	11	128,343,052	B1
1002	MRPL19			Z	80222235	80224876	1	ENSG00000115364	2	75,727,417	B1
1003	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	80226813	80234948	0	ENSG00000005436	2	75,742,802	B1
1004	MRPL19			Z	80250734	80253397	1	ENSG00000115364	2	75,727,417	B1
1005	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	80255338	80262457	0	ENSG00000005436	2	75,742,802	B1
1006	MRPL19			Z	80287270	80289918	1	ENSG00000115364	2	75,727,417	B1
1007	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	80291820	80294282	0	ENSG00000005436	2	75,742,802	B1
1008	MRPL19			Z	80309330	80311975	1	ENSG00000115364	2	75,727,417	B1
1009	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	80313915	80322286	0	ENSG00000005436	2	75,742,802	B1
1010	MRPL19			Z	80355939	80358577	1	ENSG00000115364	2	75,727,417	B1
1011	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	80360543	80364341	0	ENSG00000005436	2	75,742,802	B1
1012	MRPL19			Z	80390411	80391705	1	ENSG00000115364	2	75,727,417	B1
1013	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	80393145	80400634	0	ENSG00000005436	2	75,742,802	B1
1014	MRPL19			Z	80415063	80417715	1	ENSG00000115364	2	75,727,417	B1
1015	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	80419655	80425685	0	ENSG00000005436	2	75,742,802	B1
1016	RICS	Gga#S35715088	ENSGALG00000022113	Z	80430628	80436730	0	ENSG00000134909	11	128,343,052	B1
1017	MRPL19			Z	80462133	80464456	1	ENSG00000115364	2	75,727,417	B1
1018	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	80466388	80473630	0	ENSG00000005436	2	75,742,802	B1

1019	RICS	Gga#S35715088	ENSGALG00000022113	Z	80488687	80494770	0	ENSG00000134909	11	128,343,052	B1
1020	MRPL19			Z	80499584	80502204	1	ENSG00000115364	2	75,727,417	B1
1021	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	80504140	80509478	0	ENSG00000005436	2	75,742,802	B1
1022	RICS	Gga#S35715088	ENSGALG00000022113	Z	80518080	80523993	0	ENSG00000134909	11	128,343,052	B1
1023	MRPL19			Z	80527256	80529895	1	ENSG00000115364	2	75,727,417	B1
1024	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	80531831	80538641	0	ENSG00000005436	2	75,742,802	B1
1025	RICS	Gga#S35715088	ENSGALG00000022113	Z	80543073	80549344	0	ENSG00000134909	11	128,343,052	B1
1026	MRPL19			Z	80571877	80574513	1	ENSG00000115364	2	75,727,417	B1
1027	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	80576449	80583376	0	ENSG00000005436	2	75,742,802	B1
1028	RICS	Gga#S35715088	ENSGALG00000022113	Z	80587643	80593777	0	ENSG00000134909	11	128,343,052	B1
1029	MRPL19			Z	80598411	80601048	1	ENSG00000115364	2	75,727,417	B1
1030	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	80602984	80610899	0	ENSG00000005436	2	75,742,802	B1
1031	MRPL19			Z	80630068	80632660	1	ENSG00000115364	2	75,727,417	B1
1032	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	80634594	80641647	0	ENSG00000005436	2	75,742,802	B1
1033	ADCY10	Gga#S21389984	ENSGALG00000002611	Z	80655525	80659514	1	ENSG00000143199	1	166045507	B1
1034	MTAP	Gga#S22196260	ENSGALG00000008174	Z	80750848	80782536	0	ENSG00000099810	9	21792635	A
1035	CDKN2B	Gga#S10831372		Z	80792252	80803814	1	ENSG00000147883	9	21992909	A
1036	B4GALT1		ENSGALG00000002022	Z	80888067	80896654	1	ENSG00000086062	9	33100642	A
1037	TRIM36	Gga#S21386046	ENSGALG00000008188	Z	80917175	80940431	1	ENSG00000152503	5	114488377	A
1038	PGGT1B	Gga#S35713406	ENSGALG00000008197	Z	80947277	80981169	1	ENSG00000164219	5	114575476	A
1039	CCDC112	Gga#S35713405	ENSGALG00000023042	Z	80983091	80991575	1	ENSG00000164221	5	114630784	A
1040	FEM1C	Gga#S6958921	ENSGALG00000008204	Z	81059386	81072595	1	ENSG00000145780	5	114884507	A
1041	ALDH7A1	Gga#S21386045	ENSGALG00000008229	Z	81087897	81105581	0	ENSG00000164904	5	125905432	A
1042	GRAMD3	Gga#S21386044	ENSGALG00000008237	Z	81115165	81155670	1	ENSG00000155324	5	125787000	A
1043	MRPL19			Z	81483987	81529593	1	ENSG00000115364	2	75,727,417	B1
1044	ZNF608	Gga#S21386047	ENSGALG00000005016	Z	81788132	81869506	0	ENSG00000168916	5	123994027	A
1045	cZorf12		ENSGALG00000023041	Z	82097080	82097386	0	X12	5	123037225	A
1046	ADCY10	Gga#S21389984	ENSGALG00000002611	Z	82282321	82282321	1	ENSG00000143199	1	166045507	B1
1047	RICS	Gga#S35715088	ENSGALG00000022113	Z	82290979	82297030	1	ENSG00000134909	11	128,343,052	B1
1048	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	82300500	82306461	1	ENSG00000005436	2	75,742,802	B1
1049	RICS	Gga#S35715088	ENSGALG00000022113	Z	82317212	82323390	1	ENSG00000134909	11	128,343,052	B1
1050	RICS	Gga#S35715088	ENSGALG00000022113	Z	82345496	82351232	1	ENSG00000134909	11	128,343,052	B1
1051	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	82355806	82362651	1	ENSG00000005436	2	75,742,802	B1
1052	MRPL19			Z	82364437	82367091	0	ENSG00000115364	2	75,727,417	B1
1053	RICS	Gga#S35715088	ENSGALG00000022113	Z	82371546	82377628	1	ENSG00000134909	11	128,343,052	B1
1054	RICS	Gga#S35715088	ENSGALG00000022113	Z	82390060	82396252	1	ENSG00000134909	11	128,343,052	B1
1055	RICS	Gga#S35715088	ENSGALG00000022113	Z	82407064	82412904	1	ENSG00000134909	11	128,343,052	B1
1056	RICS	Gga#S35715088	ENSGALG00000022113	Z	82427257	82433507	1	ENSG00000134909	11	128,343,052	B1
1057	RICS	Gga#S35715088	ENSGALG00000022113	Z	82446643	82452687	1	ENSG00000134909	11	128,343,052	B1
1058	RICS	Gga#S35715088	ENSGALG00000022113	Z	82466261	82472251	1	ENSG00000134909	11	128,343,052	B1
1059	RICS	Gga#S35715088	ENSGALG00000022113	Z	82483782	82489950	1	ENSG00000134909	11	128,343,052	B1
1060	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	82493698	82501440	1	ENSG00000005436	2	75,742,802	B1
1061	MRPL19			Z	82503377	82506029	0	ENSG00000115364	2	75,727,417	B1
1062	RICS	Gga#S35715088	ENSGALG00000022113	Z	82511511	82517513	1	ENSG00000134909	11	128,343,052	B1
1063	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	82520810	82527664	1	ENSG00000005436	2	75,742,802	B1
1064	MRPL19			Z	82529606	82532243	0	ENSG00000115364	2	75,727,417	B1
1065	RICS	Gga#S35715088	ENSGALG00000022113	Z	82536790	82542823	11	ENSG00000134909	11	128,343,052	B1
1066	RICS	Gga#S35715088	ENSGALG00000022113	Z	82554915	82561152	1	ENSG00000134909	11	128,343,052	B1
1067	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	82568636	82575654	1	ENSG00000005436	2	75,742,802	B1
1068	MRPL19			Z	82577618	82580254	0	ENSG00000115364	2	75,727,417	B1
1069	RICS	Gga#S35715088	ENSGALG00000022113	Z	82585000	82591165	1	ENSG00000134909	11	128,343,052	B1
1070	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	82594594	82600743	1	ENSG00000005436	2	75,742,802	B1
1071	MRPL19			Z	82602689	82605307	0	ENSG00000115364	2	75,727,417	B1
1072	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	82607594	82632412	1	ENSG00000005436	2	75,742,802	B1
1073	RICS	Gga#S35715088	ENSGALG00000022113	Z	82609915	82615956	1	ENSG00000134909	11	128,343,052	B1
1074	MRPL19			Z	82634348	82605307	0	ENSG00000115364	2	75,727,417	B1
1075	RICS	Gga#S35715088	ENSGALG00000022113	Z	82640517	82646376	1	ENSG00000134909	11	128,343,052	B1
1076	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	82653492	82668195	1	ENSG00000005436	2	75,742,802	B1
1077	RICS	Gga#S35715088	ENSGALG00000022113	Z	82655818	82661700	1	ENSG00000134909	11	128,343,052	B1
1078	MRPL19			Z	82673865	82676511	0	ENSG00000115364	2	75,727,417	B1

1079	RICS	Gga#S35715088	ENSGALG00000022113	Z	82681268	82687143	1	ENSG00000134909	11	128,343,052	B1
1080	RICS	Gga#S35715088	ENSGALG00000022113	Z	82699714	82705551	1	ENSG00000134909	11	128,343,052	B1
1081	cZorf16			Z	82717437	82718977	0				B1
1082	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	82719815	82727522	1	ENSG00000005436	2	75,742,802	B1
1083	MRPL19			Z	82729461	82732124	0	ENSG00000115364	2	75,727,417	B1
1084	RICS	Gga#S35715088	ENSGALG00000022113	Z	82738576	82744462	1	ENSG00000134909	11	128,343,052	B1
1085	RICS	Gga#S35715088	ENSGALG00000022113	Z	82757948	82763956	1	ENSG00000134909	11	128,343,052	B1
1086	MRPL19			Z	82771853	82774525	0	ENSG00000115364	2	75,727,417	B1
1087	RICS	Gga#S35715088	ENSGALG00000022113	Z	82779212	82784867	1	ENSG00000134909	11	128,343,052	B1
1088	RICS	Gga#S35715088	ENSGALG00000022113	Z	82795822	82801510	1	ENSG00000134909	11	128,343,052	B1
1089	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	82805487	82814997	1	ENSG00000005436	2	75,742,802	B1
1090	MRPL19			Z	82816932	82819478	0	ENSG00000115364	2	75,727,417	B1
1091	RICS	Gga#S35715088	ENSGALG00000022113	Z	82824290	82830214	1	ENSG00000134909	11	128,343,052	B1
1092	RICS	Gga#S35715088	ENSGALG00000022113	Z	82841200	82846837	1	ENSG00000134909	11	128,343,052	B1
1093	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	82851575	82858159	1	ENSG00000005436	2	75,742,802	B1
1094	MRPL19			Z	82860120	82862765	0	ENSG00000115364	2	75,727,417	B1
1095	RICS	Gga#S35715088	ENSGALG00000022113	Z	82868289	82874267	1	ENSG00000134909	11	128,343,052	B1
1096	RICS	Gga#S35715088	ENSGALG00000022113	Z	82894762	82900630	1	ENSG00000134909	11	128,343,052	B1
1097	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	82907839	82914126	1	ENSG00000005436	2	75,742,802	B1
1098	MRPL19			Z	82916089	82918730	0	ENSG00000115364	2	75,727,417	B1
1099	RICS	Gga#S35715088	ENSGALG00000022113	Z	82923367	82929456	1	ENSG00000134909	11	128,343,052	B1
1100	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	82943759	82951285	1	ENSG00000005436	2	75,742,802	B1
1101	MRPL19			Z	82953224	82955873	0	ENSG00000115364	2	75,727,417	B1
1102	RICS	Gga#S35715088	ENSGALG00000022113	Z	82960479	82966342	1	ENSG00000134909	11	128,343,052	B1
1103	RICS	Gga#S35715088	ENSGALG00000022113	Z	82979734	82985570	1	ENSG00000134909	11	128,343,052	B1
1104	C2ORF3	Gga#S21398230	ENSGALG00000016732	Z	82999486	83007035	1	ENSG00000005436	2	75,742,802	B1
1105	MRPL19			Z	83008961	82955873	0	ENSG00000115364	2	75,727,417	B1
1106	RICS	Gga#S35715088	ENSGALG00000022113	Z	83016646	83022863	1	ENSG00000134909	11	128,343,052	B1
1107	RICS	Gga#S35715088	ENSGALG00000022113	Z	83038416	83044395	1	ENSG00000134909	11	128,343,052	B1
1108	C2ORF3	Gga#S21388675	ENSGALG00000023046	Z	83047878	83056366	1	ENSG00000005436	2	75,742,802	B1
1109	RICS	Gga#S35715088	ENSGALG00000022113	Z	83066638	83072596	1	ENSG00000134909	11	128,343,052	B1
1110	SRFBP1	Gga#S21386067	ENSGALG00000005316	Z	83078659	83134104	0	ENSG00000151304	5	121325555	A
1111	LOX	Gga#S19183798	ENSGALG00000005317	Z	83144006	83151247	1	ENSG00000113083	5	121429918	A
1112	ZNF474			Z	83202672	83206163	0	ENSG00000164185	5	121493114	A
1113	SNCAIP	Gga#S21386066	ENSGALG00000005330	Z	83268214	83314714	0	ENSG00000064692	5	121675719	A
1114	SNX2	Gga#S23831130	ENSGALG00000005337	Z	83404634	83437117	0	ENSG00000205302	5	122138649	A
1115	SNX24	Gga#S7080224	ENSGALG00000018874	Z	83440114	83515384	0	ENSG00000064652	5	122209170	A
1116	PPIC	Gga#S35713403	ENSGALG00000005346	Z	83517560	83522680	1	ENSG00000168938	5	122386979	A
1117	PRDM6			Z	83595205	83617242	0	ENSG00000061455	5	122452715	A
1118	CEP120	Gga#S21386060	ENSGALG00000005368	Z	83654557	83690322	1	ENSG00000168944	5	122708478	A
1119	TOMM5	Gga#S19627866	ENSGALG00000005372	Z	83696982	83697349	0	ENSG00000175768	9	37578410	A
1120	FRMPD1			Z	83717485	83736450	0	ENSG00000070601	9	37641052	A
1121	RG9MTD3	Gga#S35713402		Z	83738618	83743905	1	ENSG00000165275	9	37743802	A
1122	WDR32	Gga#S6960614	ENSGALG00000017558	Z	83744490	83763129	0	ENSG00000122741	9	37790790	A
1123	MCART1	Gga#S6786262		Z	83769220	83770092	1	ENSG00000122696	9	37869400	A
1124	FBXO10			Z	83775680	83775785	0	ENSG00000147912	9	37500899	A
1125	POLR1E	Gga#S33767871	ENSGALG00000005395	Z	83778718	83791988	1	ENSG00000137054	9	37475945	A
1126	ZBTB5	Gga#S21386049	ENSGALG00000005354	Z	83798960	83800981	0	ENSG00000168795	9	37428111	A
1127	GRHPR	Gga#S18609824	ENSGALG00000005423	Z	83811176	83816244	1	ENSG00000137106	9	37412663	A
1128	ZCCHC7	Gga#S21386055	ENSGALG00000005433	Z	83829957	83870405	1	ENSG00000147905	9	37110469	A
1129	PDE6B			J_AA056N13	117342	96671		ENSG00000133256	4	609,373	B3a
1130	ATP5I			J_AA056N13	89443	91311		ENSG00000169020	4	656,228	B3a
1131	MFS07			J_AA068J18	126844	141407		ENSG00000169026	4	665,614	B3a
1132	GAK			J_AA056N13	35747	403		ENSG00000178950	4	833,066	B3a
1133	TMEM175			J_AA056N13	74842	88517		ENSG00000127419	4	916,260	B3a
1134	SLC26A1			J_AA056N13	172734	176096		ENSG00000145217	4	962,865	B3a
1135	IDUA			J_AA056N13	187087	140010		ENSG00000127415	4	970,785	B3a
1136	HEATR7B2			Z	68289325	68291682	1	ENSG00000171495	5	41033880	A
1137	PART1			J_AA105D16				ENSG00000152931	5	59819516	A
1138	ERCC8		XM_414249	Z	18699479	18733810	1	ENSG00000215032	5	60205418	A

1139	TAF9		J_AA063E08				ENSG00000085231	5	68696327 A
1140	OCLN		JE085K17	116822	117988		ENSG00000197822	5	68823875 A
1141	AC140134.2-1		J_AA114I01	91029	91410		ENSG00000179978	5	69424621 A
1142	BIRC1		J_AA114I01	91029	91410		ENSG00000081770	5	70300066 A
1143	AC026698.6		J_AA163L10				ENSG00000205462	5	81714520 A
1144	TMEM232		JB031H09	73194	198894		ENSG00000186952	5	109931539 A
1145	C5orf48		J_AA009F06	75724	75849		ENSG00000196900	5	125995305 A
1146	THAP1	ENSGALG00000015385	J_AA064K10				ENSG00000131931	8	42,810,975 B3a
1147	RNF170	ENSGALG00000015386	J_AA064K10				ENSG00000120925	8	42,825,091 B3a
1148	CBWD1	ENSGALG00000010147	JB056D03	144422	163054		ENSG00000147996	9	111039 A
1149	DOCK8	ENSGALG00000010156	JB056D03	117942	54192		ENSG00000107099	9	263048 A
1150	KANK1	ENSGALG00000010158	J_AA082L12	180184	2107		ENSG00000107104	9	460291 A
1151	DMRT1	ENSGALG00000010160	J_AA086C16				ENSG00000137090	9	831690 A
1152	DMRT3	ENSGALG00000010161	J_AA086C16				ENSG00000064218	9	966964 A
1153	C9orf68		J_AA025M17				ENSG00000106686	9	4578827 A
1154	RCL1	ENSGALG00000015024	J_AA025M17				ENSG00000120158	9	4782937 A
1155	IFNB1		Z		IFN array Gap		ENSG00000171855	9	21067104 A
1156	IFNW1		J_AD0121O02	12852	12391		ENSG00000177047	9	21130213 A
1157	IFNE		J_AD0121O02	12891	12349		ENSG00000184995	9	21471067 A
1158	DMRTA1		J_AA086C16	76478	76648		ENSG00000176399	9	22436840 A
1159	C9orf11		J_AA050A06	77870	154222		ENSG00000120160	9	27274667 A
1160	PAX5	ENSGALG00000016431	J_AE0093B11	35762	25576		ENSG00000196092	9	36828539 A
1161	ZNF72		J_AA128H23	73499	74188		ENSG00000197550	9	69137176 A
1162	ZNF169		JE016N08				ENSG00000175787	9	96061399 A
1163	SUSD1	ENSGALG00000015677	J_AA135B11	138453	117326		ENSG00000106868	9	113842886 A
1164	ROD1	ENSGALG00000015669	J_AA129F07	119735	68103		ENSG00000119314	9	114020536 A
1165	GRP		J_AA149E15	138568	139186		ENSG00000134443	18	55038380 A