

Table S4. Chromosome location, phylogenetic informativity and nucleotide variation of 54 genes.

#	NCBI official symbol	Alias	Human chromosome #	bp total	Variable sites	Variable sites (%)	Parsimony informative sites	Parsimony informative sites (%)	Indels
1	ABCA1	ABCA1	9	589	446	75.7	364	81.6	37
2	ADORA3	ADORA3	1	939	421	44.8	336	79.8	0
3	AFF2	AFF2	X	500	196	39.2	150	30	9
4	AFF2	AFF2.2	X	593	242	40.8	188	77.7	0
5	APP	APP	21	753	270	35.9	167	61.9	21
6	ATXN7	ATXN7	3	531	217	40.9	182	83.9	18
7	AXIN1	AXIN1	16	950	349	36.7	300	86.0	2
8	BCHE	BCHE	3	994	447	45.0	363	81.2	2
9	BCOR	BCOR	X	788	314	39.8	201	64.0	0
10	BDNF	BDNF	11	613	127	20.7	99	78.0	1
11	BRCA2	BRCA2	13	1270	714	56.2	552	77.3	15
12	CFTR	CFTR1	7	933	547	58.6	429	78.4	47
13	CHRNA1	CHRNA1	2	397	310	78.1	252	81.3	27
14	CNR1	CNR1	6	998	270	27.1	228	84.4	1
15	CREM	CREM	10	699	201	28.8	144	71.6	1
16	DACH1	DACH1	13	633	272	43.0	209	76.8	17
17	DCTN2	DCTN2	12	606	304	50.2	238	78.3	55
18	DENND5A	RAB6IP1	11	732	459	62.7	413	90.0	70
19	DMRT1	DMRT1	9	557	245	44.0	191	78.0	29
20	ERC2	ERC2	3	750	419	55.9	326	77.8	33
21	FAM123B	FAM123B	X	737	355	48.2	299	84.2	10
22	FBN1	FBN1	15	722	265	36.7	179	67.5	0
23	FES	FES	15	473	298	63.0	257	86.2	33
24	FOXP1	FOXP1	3	572	263	46.0	188	71.5	3
25	GHR	GHR	5	668	399	59.7	285	71.4	21
26	KCNMA1	KCNMA1	10	622	239	38.4	178	74.5	14
27	KDM5C	SMCX	X	330	165	50.0	136	82.4	13
28	KDM5D	SMCY	Y	993	660	66.5	523	79.2	46
29	LRPPRC	LRPPRC_169	2	801	442	55.2	305	69.0	31
30	LRPPRC	LRPPRC_171	2	776	388	50.0	287	74.0	34
31	LUC7L	LUCL7	16	696	375	53.9	294	78.4	61
32	MAPKAP1	MAPKAP1	9	664	192	28.9	125	65.1	5
33	MBD5	MBD5	2	558	138	24.7	93	67.4	13
34	NEGR1	NEGR1	1	560	178	31.8	126	70.8	5
35	NPAS3	NPAS3	14	623	168	27.0	129	76.8	9
36	NPAS3	NPAS3.2	14	669	352	52.6	289	82.1	36
37	PLCB4	PLCB4	20	342	190	55.6	155	81.6	19
38	PNOC	PNOC	8	324	168	51.9	131	78.0	1
39	POLA1	POLA1	X	615	244	39.7	200	82.0	19
40	RAG1	RAG1	11	1071	381	35.6	307	80.6	0
41	RAG2	RAG2	11	760	353	46.4	244	69.1	0
42	RPGRIP1	RPGRIP1	14	711	322	45.3	269	83.5	11
43	S1PR1	EDG1	1	999	299	29.9	239	79.9	0
44	SGMS1	SGMS1	10	615	133	21.6	105	78.9	9
45	SIM1	SIM1	6	668	159	23.8	109	68.6	4
46	SRY	SRY	Y	642	256	39.9	192	75.0	8
47	TEX2	TEX2	17	156	55	35.3	46	83.6	0
48	TTR	TTR	18	880	574	65.2	436	76.0	39
49	TYR	TYR	11	475	192	40.4	164	85.4	0
50	USH2A	USH2A	1	605	129	21.3	82	63.6	7
51	UTY	UTY	Y	371	217	58.5	184	84.8	3
52	ZFX	ZFX	X	811	431	53.1	342	79.4	54
53	ZFY	ZFY	Y	986	403	40.9	264	65.5	13
54	ZIC3	ZIC3	X	549	172	31.3	113	65.7	12