Supplementary Information

Molecular Evolution of WDR62, a Gene that Regulates Neocorticogenesis

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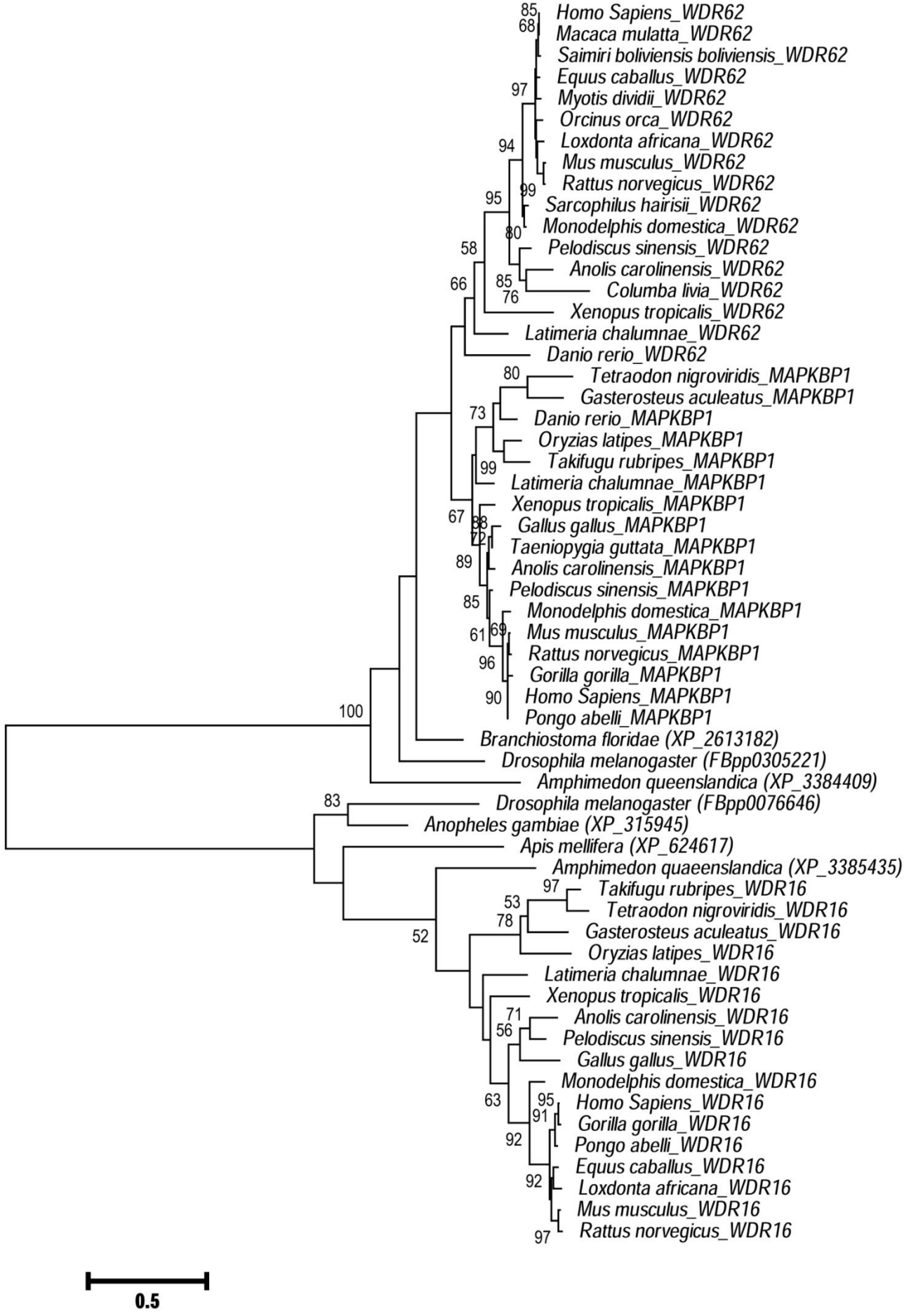
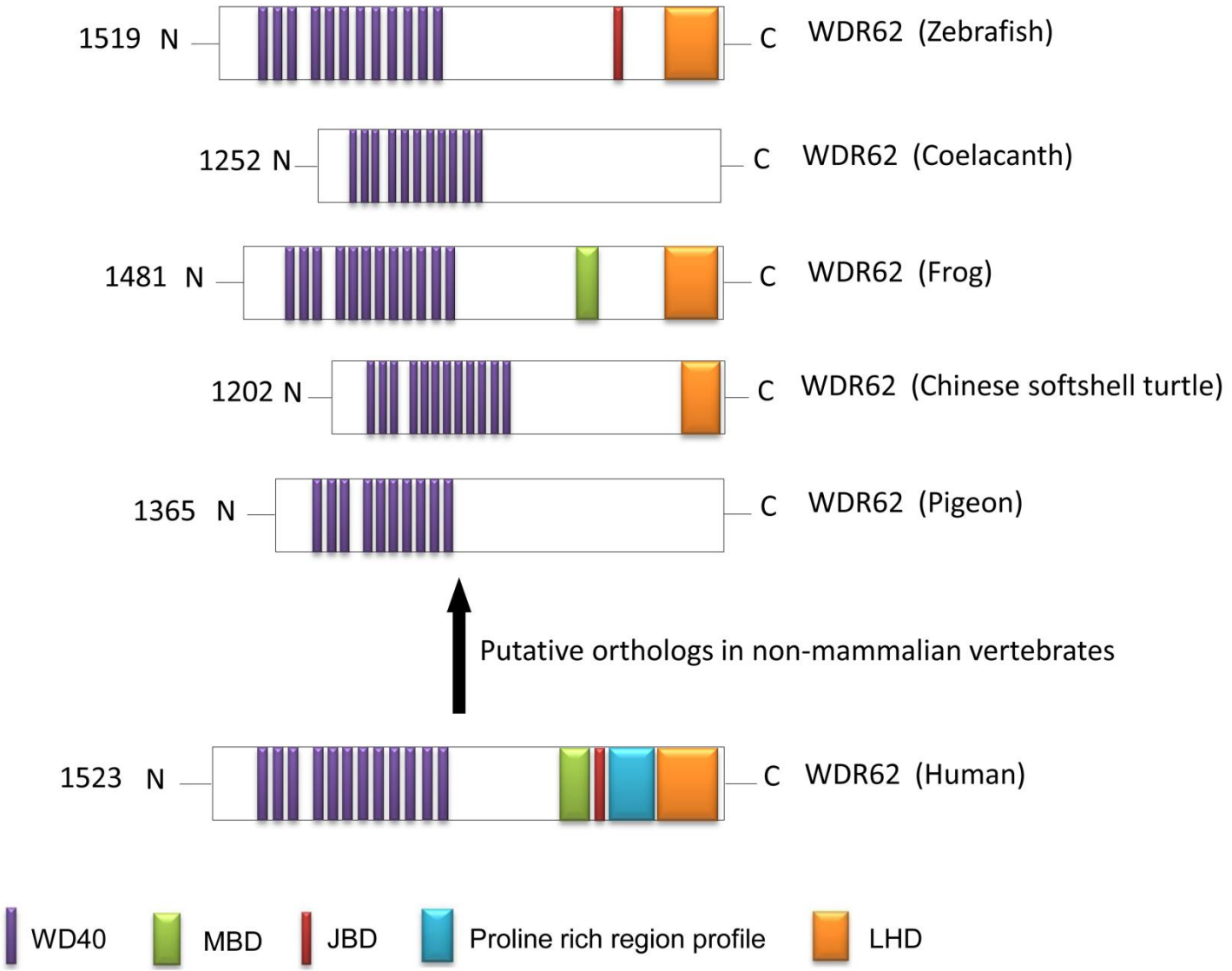
Supplementary Fig. 1



Supplementary Fig. 1 Evolutionary history of WDR62 protein.

The evolutionary history was inferred by using the Maximum Likelihood method based on the Whelan And Goldman model. The tree is drawn to scale, with branch lengths measured in the number of substitutions per site. The analysis involved 58 amino acid sequences. All positions containing gaps and missing data were eliminated. There were a total of 386 positions in the final dataset

Supplementary Fig. 2



Supplementary Fig. 2 Domain organization of WDR62 protein.
Schematic illustration of comparative organization of five key functional domains of human WDR62 across its orthologous protein in various non-mammalian vertebrates. MBD; MKK7β1 binding domain, JBD; JNK binding domain, LHD; Loop helix domain

Supplementary Table 1 DNA sequence variations in human WDR62

SNP	dbSNP Number (build 137)	Coding exon (WDR62)	Position (GRCh37)	Nucleotide change	mRNA Position	Amino Acid Position	Codon Change
1	rs61742664	2	36549684-36549684	G to A (V)	215	60	GTG→GTA
2	rs11538454	2	36549690-36549690	C to T (L)	221	62	CTC→CTG
3	rs12327568	7	36558896-36558896	A (K) to G (R)	901	289	AAG→AGG
4	rs75230537	10	36572416-36572416	T (F) to C (L)	1350	439	TTC→CTC
5	rs45567532	11	36574063-36574063	C to T (D)	1505	490	GAC→GAT
6	rs2301734	12	36575645-36575645	G to A (T)	1676	547	ACG→ACA
7	rs114968951	16	36581404-36581404	C to T (D)	2051	672	GAC→GAT
8	rs115453534	17	36582179-36582179	G to C(S)	2147	704	TCG→TCC
9	rs61494900	19	36583651-36583651	G to A (L)	2306	757	CTG→CTA
10	rs61744321	19	36583661-36583661	C (H) to T (Y)	2316	761	CAC→TAC
11	rs61747277	19	36583692-36583692	A (K) to G (R)	2347	771	AAG→AGG
12	rs2285745	22	36590329-36590329	C (S) to T (L)	2584	850	TCG→TTG
13	rs74518295	25	36592569-36592569	C (S) to T (L)	3010	992	TCG→TTG
14	rs77898819	25	36592585-36592585	C to T (A)	3026	997	GCC→GCT
15	rs11817551	25	36592627-36592627	G to A (P)	3068	1011	CCG→CCA
16	rs61741470	28	36593315-36593315	T (M)to G (R)	3436	1134	ATG→AGG
17	rs17851502	29	36594063-36594063	C to T (L)	3503	1156	CTC→CTT
18	rs45470992	30	36594369-36594369	C to T (S)	3674	1213	TCC→TCT
19	rs61743589	30	36594404-36594404	G (R) to A (H)	3709	1225	CGT→CAT
20	rs2074435	30	36594659-36594659	T (L) to A (Q)	3964	1310	CTG→CAG
21	rs17851503	30	36594853-36594853	G (G) to A (S)	4158	1375	GGC→AGC
22	rs1008328	30	36595436-36595436	C (F) to A (L)	4205	1390	TTC→TTA

Variants were filtered by 1000 Genome, HapMap, clustering and frequency to remove the invalidated polymorphisms. Variants filtering identify twenty two validated intraspecific human polymorphisms that are used in neutrality tests. Amino acid replacements are given in parentheses in fifth column

Supplementary Table 2 Status of rs2285745 in fourteen population of 1000 Genome Project

CHINESE

Han Chinese in Beijing, China. (CHB)

NA18525	NA18526	NA18527	NA18528	NA18530	NA18532
NA18534	NA18535	NA18536	NA18537	NA18538	NA18539
NA18541	NA18542	NA18543	NA18544	NA18545	NA18546
NA18547	NA18548	NA18549	NA18550	NA18552	NA18553
NA18555	NA18557	NA18558	NA18559	NA18560	NA18561
NA18562	NA18563	NA18564	NA18565	NA18566	NA18567
NA18570	NA18571	NA18572	NA18573	NA18574	NA18576
NA18577	NA18579	NA18582	NA18592	NA18593	NA18595
NA18596	NA18597	NA18599	NA18602	NA18603	NA18605
NA18606	NA18608	NA18609	NA18610	NA18611	NA18612
NA18613	NA18614	NA18615	NA18616	NA18617	NA18618
NA18619	NA18620	NA18621	NA18622	NA18623	NA18624
NA18626	NA18627	NA18628	NA18630	NA18631	NA18632
NA18633	NA18634	NA18635	NA18636	NA18637	NA18638
NA18639	NA18640	NA18641	NA18642	NA18643	NA18645
NA18647	NA18740	NA18745	NA18747	NA18748	NA18749
NA18757					

Han Chinese South. (CHS)

HG00403	HG00404	HG00406	HG00407	HG00418	HG00419
HG00421	HG00422	HG00427	HG00428	HG00436	HG00437
HG00442	HG00443	HG00445	HG00446	HG00448	HG00449
HG00451	HG00452	HG00457	HG00458	HG00463	HG00464
HG00472	HG00473	HG00475	HG00476	HG00478	HG00479
HG00500	HG00501	HG00512	HG00513	HG00524	HG00525
HG00530	HG00531	HG00533	HG00534	HG00536	HG00537
HG00542	HG00543	HG00556	HG00557	HG00559	HG00560
HG00565	HG00566	HG00577	HG00578	HG00580	HG00581
HG00583	HG00584	HG00589	HG00590	HG00592	HG00593
HG00595	HG00596	HG00607	HG00608	HG00610	HG00611
HG00613	HG00614	HG00619	HG00620	HG00625	HG00626
HG00628	HG00629	HG00634	HG00635	HG00650	HG00651
HG00653	HG00654	HG00656	HG00657	HG00662	HG00663
HG00671	HG00672	HG00683	HG00684	HG00689	HG00690
HG00692	HG00693	HG00698	HG00699	HG00701	HG00702
HG00704	HG00705	HG00707	HG00708		

JAPANESE

Japanese population in Tokyo, Japan. (JPT)

NA18939	NA18940	NA18941	NA18942	NA18943	NA18944
NA18945	NA18946	NA18947	NA18948	NA18949	NA18950
NA18951	NA18952	NA18953	NA18954	NA18956	NA18957
NA18959	NA18960	NA18961	NA18962	NA18963	NA18964
NA18965	NA18966	NA18968	NA18971	NA18973	NA18974
NA18975	NA18976	NA18977	NA18978	NA18980	NA18981
NA18982	NA18983	NA18984	NA18985	NA18986	NA18987
NA18988	NA18989	NA18990	NA18992	NA18994	NA18995
NA18998	NA18999	NA19000	NA19002	NA19003	NA19004
NA19005	NA19007	NA19009	NA19010	NA19012	NA19054
NA19055	NA19056	NA19057	NA19058	NA19059	NA19060

NA19062	NA19063	NA19064	NA19065	NA19066	NA19067
NA19068	NA19070	NA19072	NA19074	NA19075	NA19076
NA19077	NA19078	NA19079	NA19080	NA19081	NA19082
NA19083	NA19084	NA19085	NA19087	NA19088	

NORTH EUROPEAN

Finnish in Finland. (FIN)

HG00171	HG00173	HG00174	HG00176	HG00177	HG00178
HG00179	HG00180	HG00182	HG00183	HG00185	HG00186
HG00187	HG00188	HG00189	HG00190	HG00266	HG00267
HG00268	HG00269	HG00270	HG00271	HG00272	HG00273
HG00274	HG00275	HG00276	HG00277	HG00278	HG00280
HG00281	HG00282	HG00284	HG00285	HG00306	HG00309
HG00310	HG00311	HG00312	HG00313	HG00315	HG00318
HG00319	HG00320	HG00321	HG00323	HG00324	HG00325
HG00326	HG00327	HG00328	HG00329	HG00330	HG00331
HG00332	HG00334	HG00335	HG00336	HG00337	HG00338
HG00339	HG00341	HG00342	HG00343	HG00344	HG00345
HG00346	HG00349	HG00350	HG00351	HG00353	HG00355
HG00356	HG00357	HG00358	HG00359	HG00360	HG00361
HG00362	HG00364	HG00366	HG00367	HG00369	HG00372
HG00373	HG00375	HG00376	HG00377	HG00378	HG00381
HG00382	HG00383	HG00384			

British in England and Scotland. (GBR)

HG00096	HG00097	HG00099	HG00100	HG00101	HG00102
HG00103	HG00104	HG00106	HG00108	HG00109	HG00110
HG00111	HG00112	HG00113	HG00114	HG00116	HG00117
HG00118	HG00119	HG00120	HG00121	HG00122	HG00123
HG00124	HG00125	HG00126	HG00127	HG00128	HG00129
HG00130	HG00131	HG00133	HG00134	HG00135	HG00136
HG00137	HG00138	HG00139	HG00140	HG00141	HG00142
HG00143	HG00146	HG00148	HG00149	HG00150	HG00151
HG00152	HG00154	HG00155	HG00156	HG00158	HG00159
HG00160	HG00231	HG00232	HG00233	HG00234	HG00235
HG00236	HG00237	HG00238	HG00239	HG00240	HG00242
HG00243	HG00244	HG00245	HG00246	HG00247	HG00249
HG00250	HG00251	HG00252	HG00253	HG00254	HG00255
HG00256	HG00257	HG00258	HG00259	HG00260	HG00261
HG00262	HG00263	HG00264	HG00265	HG01334	

ITALIAN

Toscani in Italia. (TSI)

NA20502	NA20503	NA20504	NA20505	NA20506	NA20507
NA20508	NA20509	NA20510	NA20512	NA20513	NA20515
NA20516	NA20517	NA20518	NA20519	NA20520	NA20521
NA20522	NA20524	NA20525	NA20527	NA20528	NA20529
NA20530	NA20531	NA20532	NA20533	NA20534	NA20535
NA20536	NA20537	NA20538	NA20539	NA20540	NA20541
NA20542	NA20543	NA20544	NA20581	NA20582	NA20585
NA20586	NA20588	NA20589	NA20752	NA20753	NA20754
NA20755	NA20756	NA20757	NA20758	NA20759	NA20760
NA20761	NA20765	NA20766	NA20768	NA20769	NA20770
NA20771	NA20772	NA20773	NA20774	NA20775	NA20778

NA20783	NA20785	NA20786	NA20787	NA20790	NA20792
NA20795	NA20796	NA20797	NA20798	NA20799	NA20800
NA20801	NA20802	NA20803	NA20804	NA20805	NA20806
NA20807	NA20808	NA20809	NA20810	NA20811	NA20812
NA20813	NA20814	NA20815	NA20816	NA20818	NA20819
NA20826	NA20828				

SPAINISH

Iberian populations in Spain. (IBS)

HG01515	HG01516	HG01518	HG01519	HG01521	HG01522
HG01617	HG01618	HG01619	HG01620	HG01623	HG01624
HG01625	HG01626				

NORTH AMERICAN

Utah residents (CEPH) with Northern and Western European ancestry. (CEU)

NA06984	NA06986	NA06989	NA06994	NA07000	NA07037
NA07048	NA07051	NA07056	NA07347	NA07357	NA10847
NA10851	NA11829	NA11830	NA11831	NA11843	NA11892
NA11893	NA11894	NA11919	NA11920	NA11930	NA11931
NA11932	NA11933	NA11992	NA11993	NA11994	NA11995
NA12003	NA12004	NA12006	NA12043	NA12044	NA12045
NA12046	NA12058	NA12144	NA12154	NA12155	NA12249
NA12272	NA12273	NA12275	NA12282	NA12283	NA12286
NA12287	NA12340	NA12341	NA12342	NA12347	NA12348
NA12383	NA12399	NA12400	NA12413	NA12489	NA12546
NA12716	NA12717	NA12718	NA12748	NA12749	NA12750
NA12751	NA12761	NA12763	NA12775	NA12777	NA12778
NA12812	NA12814	NA12815	NA12827	NA12829	NA12830
NA12842	NA12843	NA12872	NA12873	NA12874	NA12889
NA12890					

Mexican Ancestry in Los Angeles, California. (MXL)

NA19648	NA19651	NA19652	NA19654	NA19655	NA19657
NA19660	NA19661	NA19663	NA19664	NA19672	NA19675
NA19676	NA19678	NA19679	NA19681	NA19682	NA19684
NA19685	NA19716	NA19717	NA19719	NA19720	NA19722
NA19723	NA19725	NA19726	NA19728	NA19729	NA19731
NA19732	NA19734	NA19735	NA19737	NA19738	NA19740
NA19741	NA19746	NA19747	NA19749	NA19750	NA19752
NA19753	NA19755	NA19756	NA19758	NA19759	NA19761
NA19762	NA19764	NA19770	NA19771	NA19773	NA19774
NA19776	NA19777	NA19779	NA19780	NA19782	NA19783
NA19785	NA19786	NA19788	NA19789	NA19794	NA19795

Puerto Rican in Puerto Rico. (PUR)

HG00553	HG00554	HG00637	HG00638	HG00640	HG00641
HG00731	HG00732	HG00734	HG00736	HG00737	HG00740
HG01047	HG01048	HG01051	HG01052	HG01055	HG01060
HG01061	HG01066	HG01067	HG01069	HG01070	HG01072
HG01073	HG01075	HG01079	HG01080	HG01082	HG01083
HG01085	HG01095	HG01097	HG01098	HG01101	HG01102
HG01104	HG01105	HG01107	HG01108	HG01167	HG01168
HG01170	HG01171	HG01173	HG01174	HG01176	HG01183
HG01187	HG01188	HG01190	HG01191	HG01197	HG01198

HG01204

SOUTH AMERICAN

Colombian in Medellin, Colombia. (CLM)

HG01112	HG01113	HG01124	HG01125	HG01133	HG01134
HG01136	HG01137	HG01140	HG01148	HG01149	HG01250
HG01251	HG01257	HG01259	HG01271	HG01272	HG01274
HG01275	HG01277	HG01278	HG01342	HG01344	HG01345
HG01350	HG01351	HG01353	HG01354	HG01356	HG01357
HG01359	HG01360	HG01365	HG01366	HG01374	HG01375
HG01377	HG01378	HG01383	HG01384	HG01389	HG01390
HG01437	HG01440	HG01441	HG01455	HG01456	HG01461
HG01462	HG01465	HG01488	HG01489	HG01491	HG01492
HG01494	HG01495	HG01497	HG01498	HG01550	HG01551

AFRICAN-AMERICAN

African Ancestry in Southwest US. (ASW)

NA19625	NA19700	NA19701	NA19703	NA19704	NA19707
NA19711	NA19712	NA19713	NA19818	NA19819	NA19834
NA19835	NA19900	NA19901	NA19904	NA19908	NA19909
NA19914	NA19916	NA19917	NA19920	NA19921	NA19922
NA19923	NA19982	NA19984	NA19985	NA20126	NA20127
NA20276	NA20278	NA20281	NA20282	NA20287	NA20289
NA20291	NA20294	NA20296	NA20298	NA20299	NA20314
NA20317	NA20322	NA20332	NA20334	NA20336	NA20339
NA20340	NA20341	NA20342	NA20344	NA20346	NA20348
NA20351	NA20356	NA20357	NA20359	NA20363	NA20412
NA20414					

AFRICAN

Luhya in Webuyo, Kenya. (LWK)

NA19020	NA19028	NA19035	NA19036	NA19038	NA19041
NA19044	NA19046	NA19307	NA19308	NA19309	NA19310
NA19311	NA19312	NA19313	NA19315	NA19316	NA19317
NA19318	NA19319	NA19321	NA19324	NA19327	NA19328
NA19331	NA19332	NA19334	NA19338	NA19346	NA19347
NA19350	NA19351	NA19352	NA19355	NA19359	NA19360
NA19371	NA19372	NA19373	NA19374	NA19375	NA19376
NA19377	NA19379	NA19380	NA19381	NA19382	NA19383
NA19384	NA19385	NA19390	NA19391	NA19393	NA19394
NA19395	NA19396	NA19397	NA19398	NA19399	NA19401
NA19403	NA19404	NA19428	NA19429	NA19430	NA19431
NA19434	NA19435	NA19436	NA19437	NA19438	NA19439
NA19440	NA19443	NA19444	NA19445	NA19446	NA19448
NA19449	NA19451	NA19452	NA19453	NA19455	NA19456
NA19457	NA19461	NA19462	NA19463	NA19466	NA19467
NA19468	NA19469	NA19470	NA19471	NA19472	NA19473
NA19474					

Yoruba in Ibadan, Nigeria. (YRI)

NA18486	NA18487	NA18489	NA18498	NA18499	NA18501
NA18502	NA18504	NA18505	NA18507	NA18508	NA18510
NA18511	NA18516	NA18517	NA18519	NA18520	NA18522
NA18523	NA18853	NA18856	NA18858	NA18861	NA18867

NA18868	NA18870	NA18871	NA18873	NA18874	NA18907
NA18908	NA18909	NA18910	NA18912	NA18916	NA18917
NA18923	NA18924	NA18933	NA18934	NA19093	NA19095
NA19096	NA19098	NA19099	NA19102	NA19107	NA19108
NA19113	NA19114	NA19116	NA19117	NA19118	NA19119
NA19121	NA19129	NA19130	NA19131	NA19137	NA19138
NA19146	NA19147	NA19149	NA19150	NA19152	NA19160
NA19171	NA19172	NA19175	NA19185	NA19189	NA19190
NA19197	NA19198	NA19200	NA19204	NA19207	NA19209
NA19213	NA19222	NA19223	NA19225	NA19235	NA19236
NA19247	NA19248	NA19256	NA19257		

STATISTICS

Mutation ID: rs2285745
Ancestral Allele: C
Ancestral Amino Acid: S
Mutations Type: (C/T)
Amino acid change: S → L
Overall, 509 individuals have mutation at (36590329). Highlighted (yellow) individuals have derived allele (homozygous (0|0) genotype).

Total individuals of corresponding populations

CHB + CHS + JPT + FIN + GBR + TSI + IBS + CEU + CLM + MXL + PUR + ASW + LWK + YRI
97 + 100 + 89 + 93 + 89 + 98 + 14 + 85 + 60 + 66 + 55 + 61 + 97 + 88 =1092

CHB + CHS + JPT + FIN + GBR + TSI + IBS + CEU + CLM + MXL + PUR + ASW + LWK + YRI
39 + 44 + 29 + 41 + 39 + 42 + 4 + 43 + 30 + 33 + 25 + 25 + 66 + 49 = 509 1/1

CHB + CHS + JPT + FIN + GBR + TSI + IBS + CEU + CLM + MXL + PUR + ASW + LWK + YRI
17 + 17 + 7 + 6 + 5 + 13 + 1 + 8 + 10 + 8 + 5 + 2 + 5 + 4 = 108 0/0

CHB + CHS + JPT + FIN + GBR + TSI + IBS + CEU + CLM + MXL + PUR + ASW + LWK + YRI
41 + 39 + 53 + 46 + 45 + 43 + 9 + 34 + 20 + 25 + 25 + 34 + 26 + 35 =475 1/0, 0/1

Supplementary Table 3 Status of rs2074435 in fourteen population of 1000 Genome Project

CHINESE

Han Chinese in Beijing, China. (CHB)

NA18525	NA18526	NA18527	NA18528	NA18530	NA18532
NA18534	NA18535	NA18536	NA18537	NA18538	NA18539
NA18541	NA18542	NA18543	NA18544	NA18545	NA18546
NA18547	NA18548	NA18549	NA18550	NA18552	NA18553
NA18555	NA18557	NA18558	NA18559	NA18560	NA18561
NA18562	NA18563	NA18564	NA18565	NA18566	NA18567
NA18570	NA18571	NA18572	NA18573	NA18574	NA18576
NA18577	NA18579	NA18582	NA18592	NA18593	NA18595
NA18596	NA18597	NA18599	NA18602	NA18603	NA18605
NA18606	NA18608	NA18609	NA18610	NA18611	NA18612
NA18613	NA18614	NA18615	NA18616	NA18617	NA18618
NA18619	NA18620	NA18621	NA18622	NA18623	NA18624
NA18626	NA18627	NA18628	NA18630	NA18631	NA18632
NA18633	NA18634	NA18635	NA18636	NA18637	NA18638
NA18639	NA18640	NA18641	NA18642	NA18643	NA18645
NA18647	NA18740	NA18745	NA18747	NA18748	NA18749
NA18757					

Han Chinese South. (CHS)

HG00403	HG00404	HG00406	HG00407	HG00418	HG00419
HG00421	HG00422	HG00427	HG00428	HG00436	HG00437
HG00442	HG00443	HG00445	HG00446	HG00448	HG00449
HG00451	HG00452	HG00457	HG00458	HG00463	HG00464
HG00472	HG00473	HG00475	HG00476	HG00478	HG00479
HG00500	HG00501	HG00512	HG00513	HG00524	HG00525
HG00530	HG00531	HG00533	HG00534	HG00536	HG00537
HG00542	HG00543	HG00556	HG00557	HG00559	HG00560
HG00565	HG00566	HG00577	HG00578	HG00580	HG00581
HG00583	HG00584	HG00589	HG00590	HG00592	HG00593
HG00595	HG00596	HG00607	HG00608	HG00610	HG00611
HG00613	HG00614	HG00619	HG00620	HG00625	HG00626
HG00628	HG00629	HG00634	HG00635	HG00650	HG00651
HG00653	HG00654	HG00656	HG00657	HG00662	HG00663
HG00671	HG00672	HG00683	HG00684	HG00689	HG00690
HG00692	HG00693	HG00698	HG00699	HG00701	HG00702
HG00704	HG00705	HG00707	HG00708		

JAPANESE

Japanese population in Tokyo, Japan. (JPT)

NA18939	NA18940	NA18941	NA18942	NA18943	NA18944
NA18945	NA18946	NA18947	NA18948	NA18949	NA18950
NA18951	NA18952	NA18953	NA18954	NA18956	NA18957
NA18959	NA18960	NA18961	NA18962	NA18963	NA18964
NA18965	NA18966	NA18968	NA18971	NA18973	NA18974
NA18975	NA18976	NA18977	NA18978	NA18980	NA18981
NA18982	NA18983	NA18984	NA18985	NA18986	NA18987
NA18988	NA18989	NA18990	NA18992	NA18994	NA18995
NA18998	NA18999	NA19000	NA19002	NA19003	NA19004
NA19005	NA19007	NA19009	NA19010	NA19012	NA19054
NA19055	NA19056	NA19057	NA19058	NA19059	NA19060

NA19062	NA19063	NA19064	NA19065	NA19066	NA19067
NA19068	NA19070	NA19072	NA19074	NA19075	NA19076
NA19077	NA19078	NA19079	NA19080	NA19081	NA19082
NA19083	NA19084	NA19085	NA19087	NA19088	

NORTH EUROPEAN

Finnish in Finland. (FIN)

HG00171	HG00173	HG00174	HG00176	HG00177	HG00178
HG00179	HG00180	HG00182	HG00183	HG00185	HG00186
HG00187	HG00188	HG00189	HG00190	HG00266	HG00267
HG00268	HG00269	HG00270	HG00271	HG00272	HG00273
HG00274	HG00275	HG00276	HG00277	HG00278	HG00280
HG00281	HG00282	HG00284	HG00285	HG00306	HG00309
HG00310	HG00311	HG00312	HG00313	HG00315	HG00318
HG00319	HG00320	HG00321	HG00323	HG00324	HG00325
HG00326	HG00327	HG00328	HG00329	HG00330	HG00331
HG00332	HG00334	HG00335	HG00336	HG00337	HG00338
HG00339	HG00341	HG00342	HG00343	HG00344	HG00345
HG00346	HG00349	HG00350	HG00351	HG00353	HG00355
HG00356	HG00357	HG00358	HG00359	HG00360	HG00361
HG00362	HG00364	HG00366	HG00367	HG00369	HG00372
HG00373	HG00375	HG00376	HG00377	HG00378	HG00381
HG00382	HG00383	HG00384			

British in England and Scotland. (GBR)

HG00096	HG00097	HG00099	HG00100	HG00101	HG00102
HG00103	HG00104	HG00106	HG00108	HG00109	HG00110
HG00111	HG00112	HG00113	HG00114	HG00116	HG00117
HG00118	HG00119	HG00120	HG00121	HG00122	HG00123
HG00124	HG00125	HG00126	HG00127	HG00128	HG00129
HG00130	HG00131	HG00133	HG00134	HG00135	HG00136
HG00137	HG00138	HG00139	HG00140	HG00141	HG00142
HG00143	HG00146	HG00148	HG00149	HG00150	HG00151
HG00152	HG00154	HG00155	HG00156	HG00158	HG00159
HG00160	HG00231	HG00232	HG00233	HG00234	HG00235
HG00236	HG00237	HG00238	HG00239	HG00240	HG00242
HG00243	HG00244	HG00245	HG00246	HG00247	HG00249
HG00250	HG00251	HG00252	HG00253	HG00254	HG00255
HG00256	HG00257	HG00258	HG00259	HG00260	HG00261
HG00262	HG00263	HG00264	HG00265	HG01334	

ITALIAN

Toscani in Italia. (TSI)

NA20502	NA20503	NA20504	NA20505	NA20506	NA20507
NA20508	NA20509	NA20510	NA20512	NA20513	NA20515
NA20516	NA20517	NA20518	NA20519	NA20520	NA20521
NA20522	NA20524	NA20525	NA20527	NA20528	NA20529
NA20530	NA20531	NA20532	NA20533	NA20534	NA20535
NA20536	NA20537	NA20538	NA20539	NA20540	NA20541
NA20542	NA20543	NA20544	NA20581	NA20582	NA20585
NA20586	NA20588	NA20589	NA20752	NA20753	NA20754
NA20755	NA20756	NA20757	NA20758	NA20759	NA20760
NA20761	NA20765	NA20766	NA20768	NA20769	NA20770
NA20771	NA20772	NA20773	NA20774	NA20775	NA20778

NA20783	NA20785	NA20786	NA20787	NA20790	NA20792
NA20795	NA20796	NA20797	NA20798	NA20799	NA20800
NA20801	NA20802	NA20803	NA20804	NA20805	NA20806
NA20807	NA20808	NA20809	NA20810	NA20811	NA20812
NA20813	NA20814	NA20815	NA20816	NA20818	NA20819
NA20826	NA20828				

SPAINISH

Iberian populations in Spain. (IBS)

HG01515	HG01516	HG01518	HG01519	HG01521	HG01522
HG01617	HG01618	HG01619	HG01620	HG01623	HG01624
HG01625	HG01626				

NORTH AMERICAN

Utah residents (CEPH) with Northern and Western European ancestry. (CEU)

NA06984	NA06986	NA06989	NA06994	NA07000	NA07037
NA07048	NA07051	NA07056	NA07347	NA07357	NA10847
NA10851	NA11829	NA11830	NA11831	NA11843	NA11892
NA11893	NA11894	NA11919	NA11920	NA11930	NA11931
NA11932	NA11933	NA11992	NA11993	NA11994	NA11995
NA12003	NA12004	NA12006	NA12043	NA12044	NA12045
NA12046	NA12058	NA12144	NA12154	NA12155	NA12249
NA12272	NA12273	NA12275	NA12282	NA12283	NA12286
NA12287	NA12340	NA12341	NA12342	NA12347	NA12348
NA12383	NA12399	NA12400	NA12413	NA12489	NA12546
NA12716	NA12717	NA12718	NA12748	NA12749	NA12750
NA12751	NA12761	NA12763	NA12775	NA12777	NA12778
NA12812	NA12814	NA12815	NA12827	NA12829	NA12830
NA12842	NA12843	NA12872	NA12873	NA12874	NA12889
NA12890					

Mexican Ancestry in Los Angeles, California. (MXL)

NA19648	NA19651	NA19652	NA19654	NA19655	NA19657
NA19660	NA19661	NA19663	NA19664	NA19672	NA19675
NA19676	NA19678	NA19679	NA19681	NA19682	NA19684
NA19685	NA19716	NA19717	NA19719	NA19720	NA19722
NA19723	NA19725	NA19726	NA19728	NA19729	NA19731
NA19732	NA19734	NA19735	NA19737	NA19738	NA19740
NA19741	NA19746	NA19747	NA19749	NA19750	NA19752
NA19753	NA19755	NA19756	NA19758	NA19759	NA19761
NA19762	NA19764	NA19770	NA19771	NA19773	NA19774
NA19776	NA19777	NA19779	NA19780	NA19782	NA19783
NA19785	NA19786	NA19788	NA19789	NA19794	NA19795

Puerto Rican in Puerto Rico. (PUR)

HG00553	HG00554	HG00637	HG00638	HG00640	HG00641
HG00731	HG00732	HG00734	HG00736	HG00737	HG00740
HG01047	HG01048	HG01051	HG01052	HG01055	HG01060
HG01061	HG01066	HG01067	HG01069	HG01070	HG01072
HG01073	HG01075	HG01079	HG01080	HG01082	HG01083
HG01085	HG01095	HG01097	HG01098	HG01101	HG01102
HG01104	HG01105	HG01107	HG01108	HG01167	HG01168
HG01170	HG01171	HG01173	HG01174	HG01176	HG01183
HG01187	HG01188	HG01190	HG01191	HG01197	HG01198

HG01204

SOUTH AMERICAN

Colombian in Medellin, Colombia. (CLM)

HG01112	HG01113	HG01124	HG01125	HG01133	HG01134
HG01136	HG01137	HG01140	HG01148	HG01149	HG01250
HG01251	HG01257	HG01259	HG01271	HG01272	HG01274
HG01275	HG01277	HG01278	HG01342	HG01344	HG01345
HG01350	HG01351	HG01353	HG01354	HG01356	HG01357
HG01359	HG01360	HG01365	HG01366	HG01374	HG01375
HG01377	HG01378	HG01383	HG01384	HG01389	HG01390
HG01437	HG01440	HG01441	HG01455	HG01456	HG01461
HG01462	HG01465	HG01488	HG01489	HG01491	HG01492
HG01494	HG01495	HG01497	HG01498	HG01550	HG01551

AFRICAN-AMERICAN

African Ancestry in Southwest US. (ASW)

NA19625	NA19700	NA19701	NA19703	NA19704	NA19707
NA19711	NA19712	NA19713	NA19818	NA19819	NA19834
NA19835	NA19900	NA19901	NA19904	NA19908	NA19909
NA19914	NA19916	NA19917	NA19920	NA19921	NA19922
NA19923	NA19982	NA19984	NA19985	NA20126	NA20127
NA20276	NA20278	NA20281	NA20282	NA20287	NA20289
NA20291	NA20294	NA20296	NA20298	NA20299	NA20314
NA20317	NA20322	NA20332	NA20334	NA20336	NA20339
NA20340	NA20341	NA20342	NA20344	NA20346	NA20348
NA20351	NA20356	NA20357	NA20359	NA20363	NA20412
NA20414					

AFRICAN

Luhya in Webuyo, Kenya. (LWK)

NA19020	NA19028	NA19035	NA19036	NA19038	NA19041
NA19044	NA19046	NA19307	NA19308	NA19309	NA19310
NA19311	NA19312	NA19313	NA19315	NA19316	NA19317
NA19318	NA19319	NA19321	NA19324	NA19327	NA19328
NA19331	NA19332	NA19334	NA19338	NA19346	NA19347
NA19350	NA19351	NA19352	NA19355	NA19359	NA19360
NA19371	NA19372	NA19373	NA19374	NA19375	NA19376
NA19377	NA19379	NA19380	NA19381	NA19382	NA19383
NA19384	NA19385	NA19390	NA19391	NA19393	NA19394
NA19395	NA19396	NA19397	NA19398	NA19399	NA19401
NA19403	NA19404	NA19428	NA19429	NA19430	NA19431
NA19434	NA19435	NA19436	NA19437	NA19438	NA19439
NA19440	NA19443	NA19444	NA19445	NA19446	NA19448
NA19449	NA19451	NA19452	NA19453	NA19455	NA19456
NA19457	NA19461	NA19462	NA19463	NA19466	NA19467
NA19468	NA19469	NA19470	NA19471	NA19472	NA19473
NA19474					

Yoruba in Ibadan, Nigeria. (YRI)

NA18486	NA18487	NA18489	NA18498	NA18499	NA18501
NA18502	NA18504	NA18505	NA18507	NA18508	NA18510
NA18511	NA18516	NA18517	NA18519	NA18520	NA18522
NA18523	NA18853	NA18856	NA18858	NA18861	NA18867

NA18868	NA18870	NA18871	NA18873	NA18874	NA18907
NA18908	NA18909	NA18910	NA18912	NA18916	NA18917
NA18923	NA18924	NA18933	NA18934	NA19093	NA19095
NA19096	NA19098	NA19099	NA19102	NA19107	NA19108
NA19113	NA19114	NA19116	NA19117	NA19118	NA19119
NA19121	NA19129	NA19130	NA19131	NA19137	NA19138
NA19146	NA19147	NA19149	NA19150	NA19152	NA19160
NA19171	NA19172	NA19175	NA19185	NA19189	NA19190
NA19197	NA19198	NA19200	NA19204	NA19207	NA19209
NA19213	NA19222	NA19223	NA19225	NA19235	NA19236
NA19247	NA19248	NA19256	NA19257		

STATISTICS

Mutation ID: rs2074435
Ancestral Allele: T
Ancestral Amino Acid: L
Mutations Type: (T/A)
Amino acid change: L→ Q
Overall, 581 individuals have mutation at (36594659). Highlighted (yellow) individuals have derived allele (homozygous (0|0) genotype).

Total individuals of corresponding populations

CHB + CHS + JPT + FIN + GBR + TSI + IBS + CEU + CLM + MXL + PUR + ASW + LWK + YRI
97 + 100 + 89 + 93 + 89 + 98 + 14 + 85 + 60 + 66 + 55 + 61 + 97 + 88 =1092

CHB + CHS + JPT + FIN + GBR + TSI + IBS + CEU + CLM + MXL + PUR + ASW + LWK + YRI
64 + 65 + 57 + 27 + 38 + 42 + 4 + 34 + 30 + 37 + 20 + 32 + 70 + 61 = 581 1/1

CHB + CHS + JPT + FIN + GBR + TSI + IBS + CEU + CLM + MXL + PUR + ASW + LWK + YRI
4 + 8 + 1 + 11 + 5 + 16 + 1 + 13 + 9 + 4 + 2 + 0 + 1 + 1 = 76 0/0

CHB + CHS + JPT + FIN + GBR + TSI + IBS + CEU + CLM + MXL + PUR + ASW + LWK + YRI
29 + 27 + 31 + 55 + 46 + 40 + 9 + 38 + 21 + 25 + 33 + 29 + 26 + 26 =435 1/0, 0/1

Supplementary Table 4 Status of rs1008328 in fourteen population of 1000 Genome Project

CHINESE					
Han Chinese in Beijing, China. (CHB)					
NA18525	NA18526	NA18527	NA18528	NA18530	NA18532
NA18534	NA18535	NA18536	NA18537	NA18538	NA18539
NA18541	NA18542	NA18543	NA18544	NA18545	NA18546
NA18547	NA18548	NA18549	NA18550	NA18552	NA18553
NA18555	NA18557	NA18558	NA18559	NA18560	NA18561
NA18562	NA18563	NA18564	NA18565	NA18566	NA18567
NA18570	NA18571	NA18572	NA18573	NA18574	NA18576
NA18577	NA18579	NA18582	NA18592	NA18593	NA18595
NA18596	NA18597	NA18599	NA18602	NA18603	NA18605
NA18606	NA18608	NA18609	NA18610	NA18611	NA18612
NA18613	NA18614	NA18615	NA18616	NA18617	NA18618
NA18619	NA18620	NA18621	NA18622	NA18623	NA18624
NA18626	NA18627	NA18628	NA18630	NA18631	NA18632
NA18633	NA18634	NA18635	NA18636	NA18637	NA18638
NA18639	NA18640	NA18641	NA18642	NA18643	NA18645
NA18647	NA18740	NA18745	NA18747	NA18748	NA18749
NA18757					
Han Chinese South. (CHS)					
HG00403	HG00404	HG00406	HG00407	HG00418	HG00419
HG00421	HG00422	HG00427	HG00428	HG00436	HG00437
HG00442	HG00443	HG00445	HG00446	HG00448	HG00449
HG00451	HG00452	HG00457	HG00458	HG00463	HG00464
HG00472	HG00473	HG00475	HG00476	HG00478	HG00479
HG00500	HG00501	HG00512	HG00513	HG00524	HG00525
HG00530	HG00531	HG00533	HG00534	HG00536	HG00537
HG00542	HG00543	HG00556	HG00557	HG00559	HG00560
HG00565	HG00566	HG00577	HG00578	HG00580	HG00581
HG00583	HG00584	HG00589	HG00590	HG00592	HG00593
HG00595	HG00596	HG00607	HG00608	HG00610	HG00611
HG00613	HG00614	HG00619	HG00620	HG00625	HG00626
HG00628	HG00629	HG00634	HG00635	HG00650	HG00651
HG00653	HG00654	HG00656	HG00657	HG00662	HG00663
HG00671	HG00672	HG00683	HG00684	HG00689	HG00690
HG00692	HG00693	HG00698	HG00699	HG00701	HG00702
HG00704	HG00705	HG00707	HG00708		
JAPANESE					
Japanese population in Tokyo, Japan. (JPT)					
NA18939	NA18940	NA18941	NA18942	NA18943	NA18944
NA18945	NA18946	NA18947	NA18948	NA18949	NA18950
NA18951	NA18952	NA18953	NA18954	NA18956	NA18957
NA18959	NA18960	NA18961	NA18962	NA18963	NA18964
NA18965	NA18966	NA18968	NA18971	NA18973	NA18974
NA18975	NA18976	NA18977	NA18978	NA18980	NA18981
NA18982	NA18983	NA18984	NA18985	NA18986	NA18987
NA18988	NA18989	NA18990	NA18992	NA18994	NA18995
NA18998	NA18999	NA19000	NA19002	NA19003	NA19004
NA19005	NA19007	NA19009	NA19010	NA19012	NA19054
NA19055	NA19056	NA19057	NA19058	NA19059	NA19060

NA19062	NA19063	NA19064	NA19065	NA19066	NA19067
NA19068	NA19070	NA19072	NA19074	NA19075	NA19076
NA19077	NA19078	NA19079	NA19080	NA19081	NA19082
NA19083	NA19084	NA19085	NA19087	NA19088	

NORTH EUROPEAN

Finnish in Finland. (FIN)

HG00171	HG00173	HG00174	HG00176	HG00177	HG00178
HG00179	HG00180	HG00182	HG00183	HG00185	HG00186
HG00187	HG00188	HG00189	HG00190	HG00266	HG00267
HG00268	HG00269	HG00270	HG00271	HG00272	HG00273
HG00274	HG00275	HG00276	HG00277	HG00278	HG00280
HG00281	HG00282	HG00284	HG00285	HG00306	HG00309
HG00310	HG00311	HG00312	HG00313	HG00315	HG00318
HG00319	HG00320	HG00321	HG00323	HG00324	HG00325
HG00326	HG00327	HG00328	HG00329	HG00330	HG00331
HG00332	HG00334	HG00335	HG00336	HG00337	HG00338
HG00339	HG00341	HG00342	HG00343	HG00344	HG00345
HG00346	HG00349	HG00350	HG00351	HG00353	HG00355
HG00356	HG00357	HG00358	HG00359	HG00360	HG00361
HG00362	HG00364	HG00366	HG00367	HG00369	HG00372
HG00373	HG00375	HG00376	HG00377	HG00378	HG00381
HG00382	HG00383	HG00384			

British in England and Scotland. (GBR)

HG00096	HG00097	HG00099	HG00100	HG00101	HG00102
HG00103	HG00104	HG00106	HG00108	HG00109	HG00110
HG00111	HG00112	HG00113	HG00114	HG00116	HG00117
HG00118	HG00119	HG00120	HG00121	HG00122	HG00123
HG00124	HG00125	HG00126	HG00127	HG00128	HG00129
HG00130	HG00131	HG00133	HG00134	HG00135	HG00136
HG00137	HG00138	HG00139	HG00140	HG00141	HG00142
HG00143	HG00146	HG00148	HG00149	HG00150	HG00151
HG00152	HG00154	HG00155	HG00156	HG00158	HG00159
HG00160	HG00231	HG00232	HG00233	HG00234	HG00235
HG00236	HG00237	HG00238	HG00239	HG00240	HG00242
HG00243	HG00244	HG00245	HG00246	HG00247	HG00249
HG00250	HG00251	HG00252	HG00253	HG00254	HG00255
HG00256	HG00257	HG00258	HG00259	HG00260	HG00261
HG00262	HG00263	HG00264	HG00265	HG01334	

ITALIAN

Toscani in Italia. (TSI)

NA20502	NA20503	NA20504	NA20505	NA20506	NA20507
NA20508	NA20509	NA20510	NA20512	NA20513	NA20515
NA20516	NA20517	NA20518	NA20519	NA20520	NA20521
NA20522	NA20524	NA20525	NA20527	NA20528	NA20529
NA20530	NA20531	NA20532	NA20533	NA20534	NA20535
NA20536	NA20537	NA20538	NA20539	NA20540	NA20541
NA20542	NA20543	NA20544	NA20581	NA20582	NA20585
NA20586	NA20588	NA20589	NA20752	NA20753	NA20754
NA20755	NA20756	NA20757	NA20758	NA20759	NA20760
NA20761	NA20765	NA20766	NA20768	NA20769	NA20770
NA20771	NA20772	NA20773	NA20774	NA20775	NA20778

NA20783	NA20785	NA20786	NA20787	NA20790	NA20792
NA20795	NA20796	NA20797	NA20798	NA20799	NA20800
NA20801	NA20802	NA20803	NA20804	NA20805	NA20806
NA20807	NA20808	NA20809	NA20810	NA20811	NA20812
NA20813	NA20814	NA20815	NA20816	NA20818	NA20819
NA20826	NA20828				

SPAINISH

Iberian populations in Spain. (IBS)

HG01515	HG01516	HG01518	HG01519	HG01521	HG01522
HG01617	HG01618	HG01619	HG01620	HG01623	HG01624
HG01625	HG01626				

NORTH AMERICAN

Utah residents (CEPH) with Northern and Western European ancestry. (CEU)

NA06984	NA06986	NA06989	NA06994	NA07000	NA07037
NA07048	NA07051	NA07056	NA07347	NA07357	NA10847
NA10851	NA11829	NA11830	NA11831	NA11843	NA11892
NA11893	NA11894	NA11919	NA11920	NA11930	NA11931
NA11932	NA11933	NA11992	NA11993	NA11994	NA11995
NA12003	NA12004	NA12006	NA12043	NA12044	NA12045
NA12046	NA12058	NA12144	NA12154	NA12155	NA12249
NA12272	NA12273	NA12275	NA12282	NA12283	NA12286
NA12287	NA12340	NA12341	NA12342	NA12347	NA12348
NA12383	NA12399	NA12400	NA12413	NA12489	NA12546
NA12716	NA12717	NA12718	NA12748	NA12749	NA12750
NA12751	NA12761	NA12763	NA12775	NA12777	NA12778
NA12812	NA12814	NA12815	NA12827	NA12829	NA12830
NA12842	NA12843	NA12872	NA12873	NA12874	NA12889
NA12890					

Mexican Ancestry in Los Angeles, California. (MXL)

NA19648	NA19651	NA19652	NA19654	NA19655	NA19657
NA19660	NA19661	NA19663	NA19664	NA19672	NA19675
NA19676	NA19678	NA19679	NA19681	NA19682	NA19684
NA19685	NA19716	NA19717	NA19719	NA19720	NA19722
NA19723	NA19725	NA19726	NA19728	NA19729	NA19731
NA19732	NA19734	NA19735	NA19737	NA19738	NA19740
NA19741	NA19746	NA19747	NA19749	NA19750	NA19752
NA19753	NA19755	NA19756	NA19758	NA19759	NA19761
NA19762	NA19764	NA19770	NA19771	NA19773	NA19774
NA19776	NA19777	NA19779	NA19780	NA19782	NA19783
NA19785	NA19786	NA19788	NA19789	NA19794	NA19795

Puerto Rican in Puerto Rico. (PUR)

HG00553	HG00554	HG00637	HG00638	HG00640	HG00641
HG00731	HG00732	HG00734	HG00736	HG00737	HG00740
HG01047	HG01048	HG01051	HG01052	HG01055	HG01060
HG01061	HG01066	HG01067	HG01069	HG01070	HG01072
HG01073	HG01075	HG01079	HG01080	HG01082	HG01083
HG01085	HG01095	HG01097	HG01098	HG01101	HG01102
HG01104	HG01105	HG01107	HG01108	HG01167	HG01168
HG01170	HG01171	HG01173	HG01174	HG01176	HG01183
HG01187	HG01188	HG01190	HG01191	HG01197	HG01198

HG01204

SOUTH AMERICAN

Colombian in Medellin, Colombia. (CLM)

HG01112	HG01113	HG01124	HG01125	HG01133	HG01134
HG01136	HG01137	HG01140	HG01148	HG01149	HG01250
HG01251	HG01257	HG01259	HG01271	HG01272	HG01274
HG01275	HG01277	HG01278	HG01342	HG01344	HG01345
HG01350	HG01351	HG01353	HG01354	HG01356	HG01357
HG01359	HG01360	HG01365	HG01366	HG01374	HG01375
HG01377	HG01378	HG01383	HG01384	HG01389	HG01390
HG01437	HG01440	HG01441	HG01455	HG01456	HG01461
HG01462	HG01465	HG01488	HG01489	HG01491	HG01492
HG01494	HG01495	HG01497	HG01498	HG01550	HG01551

AFRICAN-AMERICAN

African Ancestry in Southwest US. (ASW)

NA19625	NA19700	NA19701	NA19703	NA19704	NA19707
NA19711	NA19712	NA19713	NA19818	NA19819	NA19834
NA19835	NA19900	NA19901	NA19904	NA19908	NA19909
NA19914	NA19916	NA19917	NA19920	NA19921	NA19922
NA19923	NA19982	NA19984	NA19985	NA20126	NA20127
NA20276	NA20278	NA20281	NA20282	NA20287	NA20289
NA20291	NA20294	NA20296	NA20298	NA20299	NA20314
NA20317	NA20322	NA20332	NA20334	NA20336	NA20339
NA20340	NA20341	NA20342	NA20344	NA20346	NA20348
NA20351	NA20356	NA20357	NA20359	NA20363	NA20412
NA20414					

AFRICAN

Luhya in Webuyo, Kenya. (LWK)

NA19020	NA19028	NA19035	NA19036	NA19038	NA19041
NA19044	NA19046	NA19307	NA19308	NA19309	NA19310
NA19311	NA19312	NA19313	NA19315	NA19316	NA19317
NA19318	NA19319	NA19321	NA19324	NA19327	NA19328
NA19331	NA19332	NA19334	NA19338	NA19346	NA19347
NA19350	NA19351	NA19352	NA19355	NA19359	NA19360
NA19371	NA19372	NA19373	NA19374	NA19375	NA19376
NA19377	NA19379	NA19380	NA19381	NA19382	NA19383
NA19384	NA19385	NA19390	NA19391	NA19393	NA19394
NA19395	NA19396	NA19397	NA19398	NA19399	NA19401
NA19403	NA19404	NA19428	NA19429	NA19430	NA19431
NA19434	NA19435	NA19436	NA19437	NA19438	NA19439
NA19440	NA19443	NA19444	NA19445	NA19446	NA19448
NA19449	NA19451	NA19452	NA19453	NA19455	NA19456
NA19457	NA19461	NA19462	NA19463	NA19466	NA19467
NA19468	NA19469	NA19470	NA19471	NA19472	NA19473
NA19474					

Yoruba in Ibadan, Nigeria. (YRI)

NA18486	NA18487	NA18489	NA18498	NA18499	NA18501
NA18502	NA18504	NA18505	NA18507	NA18508	NA18510
NA18511	NA18516	NA18517	NA18519	NA18520	NA18522
NA18523	NA18853	NA18856	NA18858	NA18861	NA18867

NA18868	NA18870	NA18871	NA18873	NA18874	NA18907
NA18908	NA18909	NA18910	NA18912	NA18916	NA18917
NA18923	NA18924	NA18933	NA18934	NA19093	NA19095
NA19096	NA19098	NA19099	NA19102	NA19107	NA19108
NA19113	NA19114	NA19116	NA19117	NA19118	NA19119
NA19121	NA19129	NA19130	NA19131	NA19137	NA19138
NA19146	NA19147	NA19149	NA19150	NA19152	NA19160
NA19171	NA19172	NA19175	NA19185	NA19189	NA19190
NA19197	NA19198	NA19200	NA19204	NA19207	NA19209
NA19213	NA19222	NA19223	NA19225	NA19235	NA19236
NA19247	NA19248	NA19256	NA19257		

STATISTICS

Mutation ID: rs1008328
Ancestral Allele: C
Ancestral Amino Acid: F
Mutations Type: (C/A)
Amino acid change: F→ L
Overall, 639 individuals have mutation at (36595436). Highlighted (yellow) individuals have derived allele (homozygous (0|0) genotype).

Total individuals of corresponding populations

CHB	**CHS**	**JPT**	**FIN**	**GBR**	**TSI**	**IBS**	**CEU**	**CLM**	**MXL**	**PUR**	**ASW**	**LWK**	**YRI**		
97	+ 100	+ 89	+ 93	+ 89	+ 98	+ 14	+ 85	+ 60	+ 66	+ 55	+ 61	+ 97	+ 88	=1092	
CHB	**CHS**	**JPT**	**FIN**	**GBR**	**TSI**	**IBS**	**CEU**	**CLM**	**MXL**	**PUR**	**ASW**	**LWK**	**YRI**		
62	+ 62	+ 56	+ 50	+ 56	+ 59	+ 9	+ 57	+ 37	+ 40	+ 30	+ 29	+ 53	+ 39	= 639	1/1
CHB	**CHS**	**JPT**	**FIN**	**GBR**	**TSI**	**IBS**	**CEU**	**CLM**	**MXL**	**PUR**	**ASW**	**LWK**	**YRI**		
7	+ 5	+ 3	+ 4	+ 3	+ 4	+ 1	+ 6	+ 2	+ 5	+ 2	+ 2	+ 10	+ 6	= 60	0/0
CHB	**CHS**	**JPT**	**FIN**	**GBR**	**TSI**	**IBS**	**CEU**	**CLM**	**MXL**	**PUR**	**ASW**	**LWK**	**YRI**		
28	+ 33	+ 30	+ 39	+ 30	+ 35	+ 4	+ 22	+ 21	+ 21	+ 23	+ 30	+ 34	+ 43	=393	1/0, 0/1

Supplementary Material Data 1

Complete list of protein sequences used in this study

>Homo Sapiens_WDR62
MAAVGSGGYARNDAGEKLPSVMAGVPARRGQSSPPPAPPICLRRRTRLSTASEETVQNRV
SLEKVLGITAQNSSGLTCDPGTGHVAYLAGCVVVILDPKENKQQHIFNTARKSLSALAFS
PDGKYIVTGENGHRPAVRIWDVEEKNQVAEMLGHKYGVACVAFSPNMKHIVSMGYQHDMV
LNVWDWKKDIVVASNKVSCRVIALSFSEDSSYFVTVGNRHVRFWFLEVSTETKVTSTVPL
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SLEPQSLASLLSESESPQEAGRGHPSFLPQQKESSEASELILYSLEAEVTVTGTDSQYCR
KEVEAGPGDQQGDSYLRVSSDSPKDQSPPEDSGESEADLECSFAAIHSPAPPPDPAPRFA
TSLPHFPGCAGPTEDELSLPEGPSVPSSSLPQTPEQEKFLRHHFETLTESPCRELFPAAL
GDVEASEAEDHFFNPRLSISTQFLSSLQKASRFTHTFPPRATQCLVKSPEVKLMDRGGSQ
PRAGTGYASPDRTHVLAAGKAEETLEAWRPPPPCLTSLASCVPASSVLPTDRNLPTPTSA
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SGQVDTGQQQARTELVSTFLWIHSQLEAECLVGTSVAPAQALPSPGPPSPPTLYPLASPD
LQALLEHYSELLVQAVRRKARGH

>Neandertals_WDR62
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SLEKVLGITAQNSSGLTCDPGTGHVAYLAGCVVVILDPKENKQQHIFNTARKSLSALAFS
PDGKYIVTGENGHRPAVRIWDVEEKNQVAEMLGHKYGVACVAFSPNMKHIVSMGYQHDMV
LNVWDWKKDIVVASNKVSCRVIALSFSEDSSYFVTVGNRHVRFWFLEVSTETKVTSTVPL
VGRSGILGELHNNIFCGVACGRGRMAGSTFCVSYSGLLCQFNEKRVLEKWINLKVSLSSC
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LGQELQAITTATTPSLDSEGQEPALRSWGNHEARANLRLTLSSACDGLLLPPVDTQPGVT
VPAVSFPAPSPVEESALRLHGSAFRPSLPAPESPGLPAHPSNPQLPEARPGIPGGTASLL
EPTSGALGLFQGSPARWSEPWVPVEALPPSPLELSRVGNILHRLQTTFQEALDLYRVLVS
SGQVDTGQQQARTELVSTFLWIHSQLEAECLVGTSVAPAQALPSPGPPSPPTLYPLASPD
LQALLEHYSELLVQAVRRKARGH

>Denisovans_WDR62
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>Pan paniscus_WDR62
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LCVSQELIFCGCTDGIVRIFQAHSLHYLANLPKPHYLGVDVAQGLEPSFLFHRKAEAVYP
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>Pan troglodytes_WDR62
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EPTSGALGLFQGSPARWSEPWVPVEALSPSPLELSRVGNILHRLQTTFQEALDLYRVLVS
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LQALLEHYSELLVQAVRRKARGH

>Gorilla gorilla_WDR62
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>Macaca mulatta_WDR62
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LQALLEHYSELLVQAVRRKARGH

>Saimiri boliviensis boliviensis_WDR62
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>Anolis carolinensis_WDR62
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>Pelodiscus sinensis_WDR62
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>Columba livia_WDR62
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>Xenopus tropicalis_WDR62
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>Latimeria chalumnae_WDR62
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>Homo Sapiens_MAPKBP1
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>Gorilla gorilla_MAPKBP1
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>Pongo abelli_MAPKBP1
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>Mus musculus_MAPKBP1
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>Homo Sapiens_WDR16
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>Gorilla gorilla_WDR16
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>Pongo abelli_WDR16
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>Equus caballus_WDR16
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>Loxdonta africana_WDR16

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IVSVSGDGAILRWKYPYAS

>Mus musculus_WDR16
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>Rattus norvegicus_WDR16
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>Monodelphis domestica_WDR16
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>Gallus gallus_WDR16
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>Anolis carolinensis_WDR16
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>Pelodiscus sinensis_WDR16
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>Xenopus tropicalis_WDR16
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>Latimeria chalumnae_WDR16
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>Takifugu rubripes_WDR16
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>Tetraodon nigroviridis_WDR16
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>Gasterosteus aculeatus_WDR16
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>Oryzias latipes_WDR16
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>Drosophila melanogaster_FBpp0076646
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>Apis mellifera_XP_624617
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>Anopheles gambiae_XP_315945
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List of transcript sequences used in this study

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