

The DISC locus and schizophrenia – Evidence from an association study in a central European sample and from a meta-analysis across different European populations

Johannes Schumacher^{1,2*}, Gonzalo Laje¹, Rami Abou Jamra², Tim Becker³,
Thomas W Mühleisen⁴, Catalina Vasilescu⁴, Manuel Mattheisen^{2,4}, Stefan Herms⁴,
Per Hoffmann⁴, Axel M Hillmer⁴, Alexander Georgi⁵, Christine Herold³,
Thomas G Schulze^{1,5}, Peter Propping², Marcella Rietschel⁵,
Francis J McMahon¹, Markus M Nöthen^{2,4}, Sven Cichon^{2,4}

SUPPLEMENTARY MATERIAL

SUPPLEMENTARY METHODS

Determining the genetic homogeneity of the sample

To prevent the potential inflation of association results secondary to admixture, we used *Structure v. 2.2* (1,2) to derive the number of populations present (K) by assessing the multi-locus chi-square value in a set of 84 unlinked SNPs located at nine different chromosomal regions with no evidence for an inter-marker LD (defined by $r^2 < 0.7$). We ran *Structure* for 20,000 burn-in steps followed by 20,000 replications. The results implied that our cases and controls represented a homogenous population (K=1) and, consequently, no further correction for population structure was performed.

Screening procedure for psychiatric disorders in control subjects

After agreeing to participate in the study, controls underwent a thorough clinical assessment by a psychiatrist/psychologist; if current or past psychiatric disorder was suspected, study participants completed a structured SCID-I Interview. For the purpose of

this study, only those control subjects with no psychiatric DSM-IV Axis I diagnoses were included.

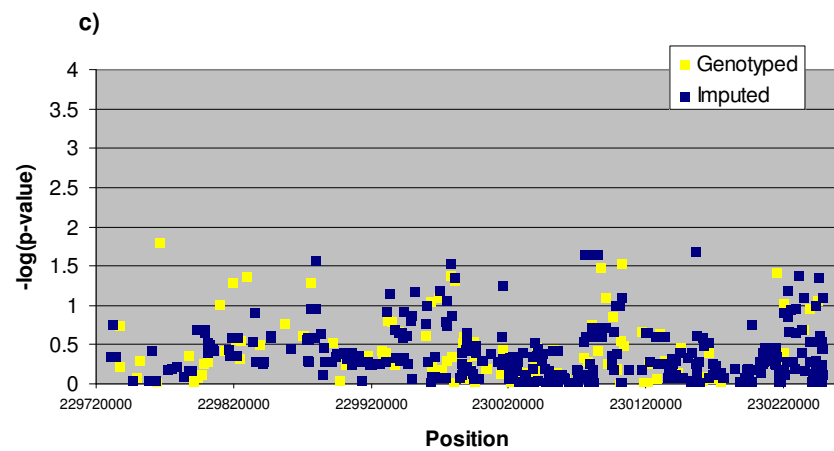
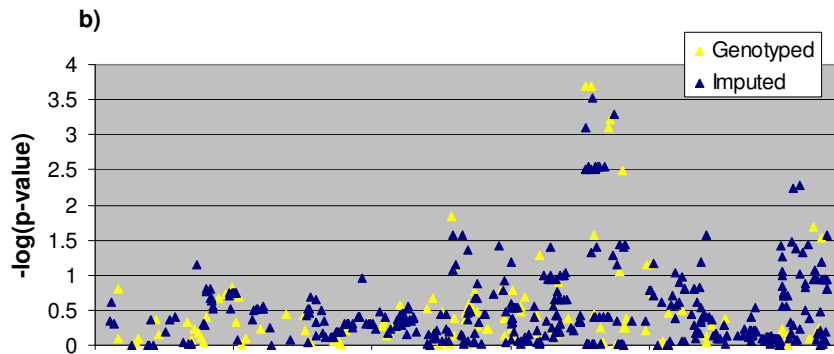
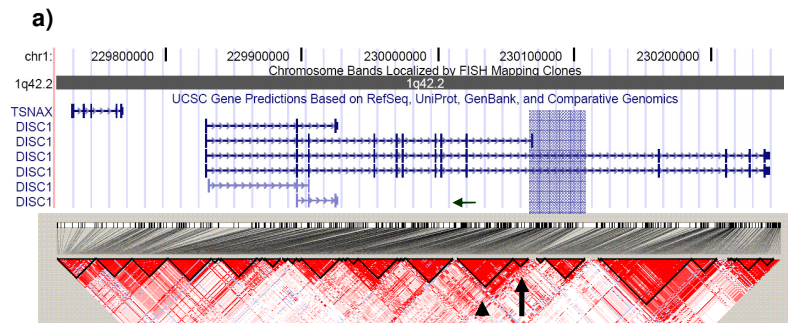
Definition of lifetime history of depressive symptoms (DEP)

A positive rating of lifetime history of depressive symptoms (DEP) was noted if patients met one of the two first DSM-IV criteria for a major depressive disorder (depressed mood and loss of interest/pleasure) and at least four of the remaining seven criteria (weight loss/appetite changes; sleep disturbances; agitation/retardation; fatigue/loss of energy; feelings of worthlessness/inappropriate guilt; problems concentrating; thoughts of death/suicidality) for a duration of at least two weeks. Only episodes occurring outside psychotic episodes were considered. The same criteria have been used previously (3).

SUPPLEMENTARY TABLES AND FIGURES

Supplementary Figure 1

The *DISC* locus: **a)** The *TSNAX* and *DISC1* genes are shown using the UCSC Genome Browser. The location of *DISC2*, which is not listed as a RefSeq gene, is schematically given using a green arrow. The blue block indicates the location of *DISC1* haplotype-blocks 22 and 23. Below is the haplotype-block structure obtained according to Gabriel and colleagues (4) using all analyzed markers and HaploView (the short arrow indicates block 22, the long arrow indicates block 23). **b)** Imputed and genotyped *DISC* association results in the case-control female sample. **c)** Imputed and genotyped *DISC* association results in the case-control male sample.



Supplementary Table 1

Association findings at the *DISC1* locus in samples with schizophrenia (adapted and modified from Table 1 in Chubb and colleagues (5))

Study	# of <i>DISC1</i> variants	Sample	Origin	80% Power ₁ (α 0.05)	Associated marker/haplotype: Location within <i>DISC1</i>
Hennah et al. (6)	28	458 Schizophrenia families	Finland	-	HEP1: Exon 9 - Intron 9, HEP2*: Intron 4 (<i>TSNAX</i>), HEP3#: Intron 1 - Exon 2, HEP4*: Exon 13
Hodgkinson et al. (7) ²	39	196 patients vs. 217 controls	North American	0.16 / 0.45	rs6675281 (Leu607Phe): Exon 9, hap3 and hap8: Intron 8 - Intron 9
Kockelkorn et al. (8)	6	532 patients vs. 519 controls	Japan	0.35 / 0.82	-
Callicott et al. (9)	12	252 patients vs. 238 controls	North American	0.19 / 0.55	rs821616 (Ser704Cys): Exon 11, 3-marker haplotype: Intron 9 - Exon 11
Thomson et al. (10)	30	394 patients vs. 478 controls	Scottish	0.30 / 0.76	rs2812393*, rs1322784*: Intron 6
Zhang et al. (11)	15	338 patients vs. 318 controls	Japan	0.24 / 0.63	-
Hashimoto et al. (12)	13	856 patients vs. 717 controls	Japan	0.48 / 0.94	rs821577: Intron 9
Zhang et al. (13)	4	677 patients vs. 648 controls	Scottish	0.43 / 0.90	2-marker haplotype: Intron 1 - Exon 2
Chen et al. (14)	3	560 patients vs. 576 controls	Han Chinese	0.38 / 0.86	rs2295959*#: Intron 9
Qu et al. (15)	4	313 patients vs. 317 controls	Han Chinese	0.23 / 0.62	4-marker haplotype: Intron 10 - Exon 10
Wood et al. (16)	71	311 patients vs. 291 controls	North American	0.22 / 0.60	-
Sanders et al. (17)	115	1,678 patients vs. 2,002 controls	North American	0.84 / 0.99	-
Hennah et al. (18)	67	348 patients vs. 351 controls	UK (London)	0.25 / 0.66	Block 10-12#: Intron 9
		328 patients vs. 315 controls	UK (Edinburgh)	0.23 / 0.62	Block 6-7#: Intron 2 - Intron 3, Block 10-12#: Intron 9, Block 11#: Intron 9
		256 patients vs. 255 controls	UK (Aberdeen)	0.20 / 0.53	Block 1-3#: Exon 1 - Intron 3, Block 4 and 5#: Intron 4 - Intron 6, Block 19#: Exon 13
		343 patients vs. 342 controls	Finland	0.25 / 0.65	Block 2-3#: Exon 1 - Intron 3, Block 5#: Intron 4 - Intron 6, Block 19#: Exon 13
Sullivan et al. (19) ³	99	738 patients vs. 733 controls	North American	0.46 / 0.93	Intron 8 - Intron 9

For studies with multiple association findings, the most robust findings are reported. Less robust findings are marked with an asterisk (*). Sex-specific findings are marked with a number sign (#).¹ The power analysis was performed using the Genetic Power Calculator (Purcell et al. (20)) and was based on the following parameters: 80% power, alpha 0.05, allelic test (df 1), risk allele frequency 0.10, disease prevalence in the general population of 0.015, two different genotypic relative risks (GRR): 1.25 / 1.5 (additive model).² The sample overlaps with the genome-wide association (GWA) sample used in the study by Lencz et al. (21).³ *DISC1* markers were genotyped in a fill-in procedure through a GWA study (Affymetrix 500K two-chip platform plus a custom 164K fill-in chip).

Supplementary Table 2

Single-marker association results at the *DISC* locus in schizophrenia cases and controls

Block ¹	SNP	i/g ²	Position	Inter-bp	AAS ³	MA ⁴	All (782 cases, 839 controls)					Females (254 cases, 358 controls)					Males (428 cases, 481 controls)				
							Case ⁵	Control ⁶	P ⁷	OR	P p ⁸	Case ⁵	Control ⁶	P ⁷	OR	P p ⁸	Case ⁵	Control ⁶	P ⁷	OR	P p ⁸
	rs1630250	i	229730826		-	C	0.321	0.322	0.9319	0.99	1.00	0.331	0.313	0.4608	1.09	1.00	0.313	0.329	0.4417	0.93	1.00
1	rs1621135	i	229731376	550	-	A	0.054	0.057	0.7618	0.96	1.00	0.060	0.046	0.2489	1.31	1.00	0.050	0.065	0.1724	0.76	1.00
1	rs2808579	i	229733891	2515	-	A	0.320	0.322	0.9013	0.99	1.00	0.329	0.313	0.4957	1.08	1.00	0.313	0.329	0.4417	0.93	1.00
1	rs1655290	g	229736450	2559	-	G	0.124	0.109	0.1894	1.15	1.00	0.125	0.101	0.1586	1.27	1.00	0.123	0.115	0.5947	1.08	1.00
1	rs2185336	g	229736523	73	-	G	0.117	0.126	0.4024	0.91	1.00	0.125	0.121	0.8104	1.04	1.00	0.110	0.130	0.1795	0.82	1.00
1	rs3767754	i	229746285	9762	-	A	0.264	0.265	0.9236	0.99	1.00	0.267	0.266	0.9875	1.00	1.00	0.261	0.264	0.8820	0.98	1.00
1	rs7556048	g	229749264	2979	-	T	0.263	0.267	0.8159	0.98	1.00	0.266	0.269	0.9117	0.99	1.00	0.260	0.265	0.8236	0.98	1.00
1	rs17802224	g	229750870	1606	-	T	0.344	0.356	0.4749	0.95	1.00	0.332	0.338	0.8091	0.97	1.00	0.354	0.370	0.4939	0.94	1.00
1	rs6667975	i	229758139	7269	-	G	0.264	0.265	0.9236	0.99	1.00	0.267	0.266	0.9875	1.00	1.00	0.261	0.264	0.8820	0.98	1.00
1	rs3767753	i	229758861	722	-	A	0.264	0.265	0.9236	0.99	1.00	0.267	0.266	0.9875	1.00	1.00	0.261	0.264	0.8820	0.98	1.00
1	rs766288	i	229760311	1450	-	T	0.325	0.327	0.8887	0.99	1.00	0.335	0.315	0.4269	1.09	1.00	0.317	0.336	0.3749	0.92	1.00
1	rs11589784	i	229762372	2061	-	T	0.264	0.265	0.9236	0.99	1.00	0.267	0.266	0.9875	1.00	1.00	0.261	0.264	0.8820	0.98	1.00
1	rs1982095	g	229763653	1281	-	T	0.382	0.372	0.5689	1.04	1.00	0.388	0.368	0.4344	1.09	1.00	0.376	0.375	0.9500	1.01	1.00
1	rs1655285	g	229766097	2444	-	G	0.123	0.106	0.1292	1.18	1.00	0.123	0.130	0.6925	0.94	1.00	0.123	0.088	0.0154	1.45	0.63
1	rs12040246	i	229771352	5255	-	G	0.184	0.192	0.5421	0.95	1.00	0.190	0.200	0.6491	0.94	1.00	0.178	0.186	0.6641	0.95	1.00
1	rs7533573	i	229774037	2685	-	A	0.331	0.328	0.8661	1.01	1.00	0.338	0.318	0.4265	1.09	1.00	0.325	0.335	0.6350	0.95	1.00
1	rs1765782	i	229778112	4075	-	T	0.330	0.327	0.8680	1.01	1.00	0.338	0.317	0.3948	1.10	1.00	0.324	0.335	0.5983	0.95	1.00
1	rs1619386	i	229783285	5173	-	C	0.370	0.365	0.7812	1.02	1.00	0.371	0.368	0.9173	1.01	1.00	0.369	0.363	0.7838	1.03	1.00
1	rs17802523	g	229786667	3382	-	G	0.087	0.089	0.8871	0.98	1.00	0.091	0.080	0.4686	1.15	1.00	0.084	0.095	0.4229	0.88	1.00
1	rs1655288	i	229787500	833	-	G	0.378	0.373	0.7871	1.02	1.00	0.376	0.378	0.9583	0.99	1.00	0.378	0.369	0.6871	1.04	1.00
1	rs3120734	g	229789217	1717	-	G	0.404	0.402	0.9333	1.01	1.00	0.400	0.406	0.8388	0.98	1.00	0.407	0.400	0.7693	1.03	1.00
1	rs3125933	i	229789268	51	-	T	0.378	0.373	0.7871	1.02	1.00	0.376	0.378	0.9583	0.99	1.00	0.378	0.369	0.6871	1.04	1.00
1	rs1612154	g	229791491	2223	-	G	0.339	0.333	0.7303	1.03	1.00	0.343	0.330	0.5883	1.06	1.00	0.336	0.336	0.9837	1.00	1.00
1	rs12024062	i	229793166	1675	-	C	0.040	0.042	0.7551	0.95	1.00	0.035	0.054	0.0698	0.63	1.00	0.044	0.033	0.2021	1.36	1.00
1	rs1655305	g	229794070	904	-	T	0.396	0.398	0.9111	0.99	1.00	0.392	0.403	0.6811	0.96	1.00	0.399	0.394	0.8308	1.02	1.00
1	rs1765791	g	229796744	2674	-	G	0.406	0.406	0.9819	1.00	1.00	0.402	0.410	0.7647	0.97	1.00	0.409	0.403	0.7674	1.03	1.00
1	rs1655304	g	229797966	1222	-	C	0.449	0.442	0.6780	1.03	1.00	0.452	0.455	0.9077	0.99	1.00	0.446	0.432	0.5312	1.06	1.00
2	rs6658979	i	229798254	288	-	G	0.458	0.433	0.1504	1.11	1.00	0.465	0.447	0.4841	1.08	1.00	0.452	0.423	0.2022	1.13	1.00
2	rs1765777	i	229798365	111	-	C	0.458	0.433	0.1504	1.11	1.00	0.465	0.447	0.4841	1.08	1.00	0.452	0.423	0.2022	1.13	1.00
2	rs1765778	i	229798979	614	-	G	0.456	0.433	0.1725	1.10	1.00	0.464	0.447	0.5179	1.07	1.00	0.450	0.422	0.2217	1.12	1.00
2	rs1655297	i	229800310	1331	-	C	0.419	0.392	0.1130	1.12	1.00	0.431	0.394	0.1568	1.16	1.00	0.409	0.390	0.4001	1.08	1.00
2	rs1655296	g	229800418	108	-	C	0.402	0.384	0.2821	1.08	1.00	0.414	0.392	0.3881	1.10	1.00	0.392	0.378	0.5244	1.06	1.00
2	rs1655295	i	229800624	206	-	T	0.419	0.390	0.0914	1.13	1.00	0.428	0.393	0.1732	1.16	1.00	0.411	0.388	0.3023	1.10	1.00
2	rs10864685	i	229802898	2274	-	A	0.411	0.382	0.0891	1.13	1.00	0.421	0.385	0.1576	1.16	1.00	0.403	0.381	0.3165	1.10	1.00

2	rs9651125	i	229803236	338	-	G	0.416	0.391	0.1315	1.11	1.00	0.425	0.393	0.2095	1.14	1.00	0.409	0.389	0.3752	1.09	1.00
2	rs6656071	i	229804323	1087	-	C	0.416	0.391	0.1315	1.11	1.00	0.425	0.393	0.2095	1.14	1.00	0.409	0.389	0.3752	1.09	1.00
2	rs6679985	i	229804452	129	-	G	0.415	0.389	0.1325	1.11	1.00	0.424	0.393	0.2296	1.14	1.00	0.408	0.387	0.3535	1.09	1.00
2	rs6674294	i	229805008	556	-	T	0.414	0.389	0.1524	1.11	1.00	0.421	0.393	0.2739	1.12	1.00	0.408	0.387	0.3535	1.09	1.00
2	rs6683094	i	229805188	180	-	G	0.413	0.389	0.1744	1.10	1.00	0.419	0.393	0.2981	1.12	1.00	0.407	0.387	0.3799	1.09	1.00
2	rs4658879	g	229809198	4010	-	T	0.194	0.166	0.0369	1.21	0.89	0.199	0.173	0.2098	1.19	1.00	0.190	0.161	0.0984	1.23	1.00
2	rs892356	g	229813573	4375	-	G	0.357	0.332	0.1230	1.12	1.00	0.367	0.334	0.1879	1.16	1.00	0.350	0.330	0.3838	1.09	1.00
2	rs1025527	i	229816468	2895	-	A	0.356	0.331	0.1233	1.12	1.00	0.364	0.332	0.1947	1.15	1.00	0.350	0.330	0.3701	1.09	1.00
2	rs1025526	i	229817264	796	-	C	0.357	0.332	0.1318	1.12	1.00	0.367	0.333	0.1765	1.16	1.00	0.349	0.331	0.4248	1.08	1.00
2	rs4658927	i	229818212	948	-	G	0.182	0.162	0.1219	1.15	1.00	0.189	0.169	0.3093	1.15	1.00	0.176	0.156	0.2535	1.15	1.00
2	rs17746859	g	229818855	643	-	T	0.061	0.067	0.4820	0.90	1.00	0.063	0.046	0.1477	1.40	1.00	0.059	0.083	0.0503	0.70	0.95
2	rs9661331	i	229818929	74	-	C	0.357	0.332	0.1318	1.12	1.00	0.367	0.333	0.1765	1.16	1.00	0.349	0.331	0.4248	1.08	1.00
2	rs6541275	i	229819565	636	-	A	0.357	0.332	0.1318	1.12	1.00	0.367	0.333	0.1765	1.16	1.00	0.349	0.331	0.4248	1.08	1.00
2	rs6541279	i	229820086	521	-	G	0.357	0.332	0.1318	1.12	1.00	0.367	0.333	0.1765	1.16	1.00	0.349	0.331	0.4248	1.08	1.00
2	rs4603118	i	229821223	1137	-	A	0.357	0.332	0.1318	1.12	1.00	0.367	0.333	0.1765	1.16	1.00	0.349	0.331	0.4248	1.08	1.00
2	rs6541280	g	229821502	279	-	G	0.401	0.379	0.1859	1.10	1.00	0.406	0.388	0.4773	1.08	1.00	0.397	0.372	0.2655	1.11	1.00
2	rs6656080	i	229821888	386	-	G	0.357	0.332	0.1318	1.12	1.00	0.367	0.333	0.1765	1.16	1.00	0.349	0.331	0.4248	1.08	1.00
2	rs1030711	i	229822084	196	-	A	0.357	0.332	0.1318	1.12	1.00	0.367	0.333	0.1765	1.16	1.00	0.349	0.331	0.4248	1.08	1.00
2	rs1030710	i	229822892	808	-	T	0.080	0.071	0.3185	1.14	1.00	0.093	0.090	0.8228	1.04	1.00	0.069	0.057	0.2587	1.24	1.00
3	rs9659663	g	229823683	791	-	A	0.357	0.334	0.1652	1.11	1.00	0.367	0.335	0.2073	1.15	1.00	0.349	0.333	0.4753	1.07	1.00
3	rs10746510	g	229825561	1878	-	T	0.063	0.056	0.3927	1.14	1.00	0.063	0.062	0.9565	1.01	1.00	0.064	0.052	0.2746	1.25	1.00
3	rs3738398	g	229828963	3402	-	G	0.467	0.444	0.1768	1.10	1.00	0.457	0.463	0.7969	0.97	1.00	0.477	0.429	0.0437	1.21	0.92
3	rs823167	i	229833853	4890	-	A	0.438	0.415	0.1816	1.10	1.00	0.443	0.423	0.4299	1.09	1.00	0.433	0.408	0.2857	1.11	1.00
3	rs2082552	i	229834513	660	-	C	0.196	0.172	0.0666	1.18	1.00	0.200	0.179	0.3148	1.14	1.00	0.193	0.166	0.1223	1.21	1.00
3	rs823165	i	229836069	1556	-	A	0.364	0.345	0.2406	1.09	1.00	0.374	0.348	0.3056	1.12	1.00	0.357	0.343	0.5214	1.07	1.00
3	rs823163	i	229837731	1662	-	G	0.364	0.345	0.2406	1.09	1.00	0.374	0.348	0.3056	1.12	1.00	0.357	0.343	0.5214	1.07	1.00
3	rs823162	g	229839036	1305	-	G	0.082	0.071	0.2511	1.16	1.00	0.091	0.083	0.5939	1.11	1.00	0.074	0.062	0.3087	1.21	1.00
3	rs1094656	i	229840298	1262	-	C	0.364	0.345	0.2406	1.09	1.00	0.374	0.348	0.3056	1.12	1.00	0.357	0.343	0.5214	1.07	1.00
3	rs1094655	i	229840985	687	-	G	0.368	0.348	0.2360	1.09	1.00	0.379	0.352	0.2801	1.13	1.00	0.359	0.346	0.5462	1.06	1.00
3	rs823161	i	229841640	655	-	A	0.364	0.345	0.2406	1.09	1.00	0.374	0.348	0.3056	1.12	1.00	0.357	0.343	0.5214	1.07	1.00
3	rs980394	i	229846130	4490	-	A	0.354	0.333	0.1986	1.10	1.00	0.358	0.344	0.5599	1.07	1.00	0.351	0.325	0.2367	1.12	1.00
3	rs12084975	i	229846734	604	-	G	0.063	0.056	0.4007	1.13	1.00	0.063	0.063	1.0000	1.00	1.00	0.064	0.051	0.2592	1.25	1.00
3	rs4658933	g	229857554	10820	-	G	0.197	0.174	0.0977	1.16	1.00	0.202	0.183	0.3646	1.13	1.00	0.193	0.168	0.1665	1.18	1.00
3	rs1285729	i	229860832	3278	-	C	0.069	0.062	0.3958	1.13	1.00	0.081	0.077	0.8259	1.04	1.00	0.060	0.050	0.3551	1.21	1.00
3	rs1417585	g	229870227	9395	-	A	0.428	0.402	0.1393	1.11	1.00	0.434	0.411	0.3815	1.10	1.00	0.423	0.395	0.2406	1.12	1.00
3	rs17804007	g	229871213	986	-	C	0.060	0.071	0.2097	0.84	1.00	0.057	0.064	0.6175	0.90	1.00	0.061	0.076	0.2354	0.80	1.00
3	rs4366301	i	229872909	1696	-	C	0.427	0.402	0.1503	1.11	1.00	0.436	0.413	0.3733	1.10	1.00	0.419	0.394	0.2685	1.11	1.00
3	rs11122318	i	229873475	566	-	C	0.364	0.344	0.2267	1.09	1.00	0.374	0.348	0.3056	1.12	1.00	0.357	0.342	0.4915	1.07	1.00
3	rs9651121	i	229873917	442	-	C	0.063	0.057	0.4429	1.12	1.00	0.063	0.064	0.9152	0.98	1.00	0.064	0.051	0.2592	1.25	1.00
3	rs11122319	i	229874905	988	-	G	0.427	0.402	0.1408	1.11	1.00	0.436	0.412	0.3457	1.11	1.00	0.419	0.394	0.2685	1.11	1.00

3	rs12030517	i	229875008	103	-	C	0.364	0.344	0.2414	1.09	1.00	0.374	0.348	0.3056	1.12	1.00	0.356	0.342	0.5242	1.06	1.00
3	rs16854753	i	229875334	326	-	A	0.199	0.171	0.0394	1.20	0.98	0.204	0.178	0.2039	1.19	1.00	0.194	0.166	0.1081	1.22	1.00
3	rs17804163 ⁹	g	229875338	4	-	T	0.146	0.165	0.1271	0.86	1.00	0.154	0.155	0.9331	0.99	1.00	0.139	0.172	0.0504	0.78	0.95
3	rs17815196	i	229879005	3667	-	G	0.051	0.049	0.7259	1.06	1.00	0.050	0.058	0.4780	0.85	1.00	0.052	0.041	0.2561	1.29	1.00
3	rs6541281	i	229879757	752	-	T	0.461	0.494	0.0538	0.87	1.00	0.453	0.462	0.7252	0.96	1.00	0.467	0.519	0.0269	0.81	0.94
3	rs4658882	i	229879828	71	-	A	0.198	0.171	0.0440	1.20	0.99	0.203	0.178	0.2283	1.18	1.00	0.194	0.166	0.1081	1.22	1.00
3	rs12042938	i	229883465	3637	-	T	0.428	0.401	0.1142	1.12	1.00	0.436	0.410	0.3194	1.11	1.00	0.422	0.394	0.2280	1.12	1.00
3	rs11122320	i	229884221	756	-	T	0.066	0.061	0.5759	1.08	1.00	0.076	0.071	0.6749	1.09	1.00	0.057	0.054	0.7544	1.07	1.00
	rs1417584	i	229885673	1452	-	C	0.443	0.422	0.2240	1.09	1.00	0.446	0.427	0.4601	1.08	1.00	0.440	0.418	0.3376	1.09	1.00
4	rs12034296	i	229886700	1027	-	A	0.329	0.319	0.5042	1.05	1.00	0.322	0.315	0.7743	1.03	1.00	0.335	0.321	0.5144	1.07	1.00
4	rs10429978	i	229890285	3585	-	T	0.329	0.319	0.5042	1.05	1.00	0.322	0.315	0.7743	1.03	1.00	0.335	0.321	0.5144	1.07	1.00
4	rs11589082	i	229891279	994	-	A	0.329	0.319	0.5042	1.05	1.00	0.322	0.315	0.7743	1.03	1.00	0.335	0.321	0.5144	1.07	1.00
4	rs1977797	i	229891697	418	-	A	0.329	0.319	0.5042	1.05	1.00	0.322	0.315	0.7743	1.03	1.00	0.335	0.321	0.5144	1.07	1.00
4	rs1572899	g	229892113	416	-	G	0.335	0.321	0.3907	1.07	1.00	0.324	0.320	0.8844	1.02	1.00	0.344	0.321	0.3002	1.11	1.00
4	rs16854779	i	229893941	1828	-	C	0.319	0.306	0.3936	1.07	1.00	0.311	0.300	0.6535	1.05	1.00	0.326	0.310	0.4472	1.08	1.00
4	rs16854783	i	229893994	53	-	A	0.319	0.306	0.3936	1.07	1.00	0.311	0.300	0.6535	1.05	1.00	0.326	0.310	0.4472	1.08	1.00
4	rs1538975 ⁹	g	229894995	1001	-	A	0.330	0.318	0.4558	1.06	1.00	0.320	0.314	0.8127	1.03	1.00	0.338	0.321	0.4184	1.08	1.00
4	rs1538974	i	229895219	224	-	T	0.320	0.306	0.3726	1.07	1.00	0.311	0.300	0.6535	1.05	1.00	0.327	0.310	0.4166	1.08	1.00
4	rs11583715	i	229895662	443	-	C	0.320	0.306	0.3726	1.07	1.00	0.311	0.300	0.6535	1.05	1.00	0.327	0.310	0.4166	1.08	1.00
4	rs3738401	g	229896918	1256	-	A	0.300	0.300	0.9829	1.00	1.00	0.291	0.293	0.9379	0.99	1.00	0.307	0.304	0.8968	1.01	1.00
4	rs11586191	i	229898404	1486	-	C	0.320	0.306	0.3726	1.07	1.00	0.311	0.300	0.6535	1.05	1.00	0.327	0.310	0.4166	1.08	1.00
4	rs11585959	i	229900341	1937	-	C	0.319	0.302	0.2834	1.08	1.00	0.311	0.295	0.4993	1.08	1.00	0.326	0.308	0.3920	1.09	1.00
4	rs11585981	g	229900585	244	-	C	0.349	0.337	0.4523	1.06	1.00	0.345	0.332	0.6272	1.06	1.00	0.353	0.340	0.5559	1.06	1.00
4	rs17748239	i	229901524	939	-	T	0.317	0.302	0.3396	1.08	1.00	0.310	0.294	0.4995	1.08	1.00	0.323	0.308	0.4843	1.07	1.00
4	rs11122321	i	229902233	709	-	C	0.317	0.302	0.3396	1.08	1.00	0.310	0.294	0.4995	1.08	1.00	0.323	0.308	0.4843	1.07	1.00
4	rs11577035	i	229902564	331	-	A	0.317	0.302	0.3396	1.08	1.00	0.310	0.294	0.4995	1.08	1.00	0.323	0.308	0.4843	1.07	1.00
4	rs12040182	i	229905788	3224	-	C	0.312	0.299	0.4282	1.06	1.00	0.304	0.291	0.5758	1.07	1.00	0.318	0.306	0.5579	1.06	1.00
4	rs16854809	i	229905870	82	-	G	0.319	0.302	0.2834	1.08	1.00	0.311	0.295	0.4993	1.08	1.00	0.326	0.308	0.3920	1.09	1.00
4	rs10429979	i	229910192	4322	-	G	0.321	0.303	0.2817	1.08	1.00	0.317	0.296	0.3969	1.10	1.00	0.324	0.309	0.4816	1.07	1.00
4	rs12043433	i	229910214	22	-	G	0.321	0.303	0.2817	1.08	1.00	0.317	0.296	0.3969	1.10	1.00	0.324	0.309	0.4816	1.07	1.00
4	rs11122322	i	229910585	371	-	G	0.321	0.303	0.2817	1.08	1.00	0.317	0.296	0.3969	1.10	1.00	0.324	0.309	0.4816	1.07	1.00
4	rs12045144	i	229910871	286	-	C	0.323	0.304	0.2480	1.09	1.00	0.318	0.298	0.3968	1.10	1.00	0.326	0.309	0.4191	1.08	1.00
4	rs12044355	i	229910970	99	-	C	0.321	0.304	0.2984	1.08	1.00	0.317	0.296	0.3969	1.10	1.00	0.324	0.310	0.5119	1.07	1.00
4	rs12410426	i	229913044	2074	-	C	0.056	0.046	0.2199	1.22	1.00	0.064	0.045	0.1086	1.45	1.00	0.049	0.047	0.8771	1.03	1.00
4	rs11122323	i	229915556	2512	-	A	0.318	0.303	0.3564	1.07	1.00	0.314	0.298	0.4988	1.08	1.00	0.322	0.308	0.5176	1.07	1.00
4	rs12045248	i	229917371	1815	-	G	0.318	0.303	0.3564	1.07	1.00	0.314	0.298	0.4988	1.08	1.00	0.322	0.308	0.5176	1.07	1.00
4	rs1934909	g	229917902	531	-	A	0.166	0.151	0.2613	1.11	1.00	0.177	0.163	0.4659	1.11	1.00	0.156	0.143	0.4221	1.11	1.00
4	rs6667123	i	229918614	712	-	G	0.318	0.303	0.3769	1.07	1.00	0.314	0.298	0.4988	1.08	1.00	0.321	0.308	0.5520	1.06	1.00
4	rs6693517	i	229919067	453	-	A	0.318	0.303	0.3769	1.07	1.00	0.314	0.298	0.4988	1.08	1.00	0.321	0.308	0.5520	1.06	1.00
4	rs6696914	i	229920103	1036	-	A	0.318	0.303	0.3769	1.07	1.00	0.314	0.298	0.4988	1.08	1.00	0.321	0.308	0.5520	1.06	1.00

4	rs1954175	i	229922033	1930	-	C	0.298	0.285	0.4111	1.07	1.00	0.294	0.281	0.5782	1.07	1.00	0.301	0.288	0.5376	1.07	1.00
5	rs11122324	i	229925804	3771	-	A	0.324	0.306	0.2776	1.09	1.00	0.324	0.300	0.3365	1.12	1.00	0.324	0.311	0.5432	1.06	1.00
5	rs6691979	g	229927305	1501	-	T	0.325	0.307	0.2900	1.08	1.00	0.317	0.301	0.5351	1.07	1.00	0.331	0.312	0.3742	1.09	1.00
5	rs1340982	g	229928655	1350	-	T	0.356	0.338	0.2844	1.08	1.00	0.350	0.332	0.4786	1.08	1.00	0.360	0.342	0.4117	1.08	1.00
5	rs2487453	i	229929827	1172	-	T	0.329	0.312	0.3039	1.08	1.00	0.326	0.306	0.3960	1.10	1.00	0.331	0.317	0.5258	1.07	1.00
6	rs2812385	g	229930625	798	-	G	0.370	0.377	0.6655	0.97	1.00	0.377	0.368	0.7441	1.04	1.00	0.363	0.383	0.3870	0.92	1.00
6	rs9431985	i	229931099	474	-	C	0.198	0.210	0.3655	0.92	1.00	0.208	0.200	0.6837	1.05	1.00	0.189	0.218	0.1161	0.83	1.00
7	rs2812388	g	229931999	900	-	C	0.202	0.213	0.4319	0.93	1.00	0.212	0.202	0.6646	1.06	1.00	0.193	0.221	0.1520	0.85	1.00
7	rs4083969	i	229933103	1104	-	G	0.067	0.059	0.3231	1.15	1.00	0.060	0.067	0.5910	0.89	1.00	0.073	0.052	0.0712	1.42	1.00
7	rs12029621	g	229934698	1595	-	G	0.170	0.179	0.4947	0.94	1.00	0.178	0.166	0.5581	1.09	1.00	0.163	0.188	0.1579	0.84	1.00
7	rs2812395	g	229937002	2304	-	A	0.213	0.215	0.9303	0.99	1.00	0.217	0.205	0.5742	1.08	1.00	0.210	0.222	0.5490	0.93	1.00
7	rs4658939	i	229937312	310	-	T	0.178	0.185	0.5753	0.95	1.00	0.186	0.174	0.5447	1.09	1.00	0.171	0.193	0.2014	0.86	1.00
7	rs2793097	i	229938404	1092	-	A	0.212	0.213	0.9633	1.00	1.00	0.218	0.201	0.4263	1.11	1.00	0.207	0.221	0.4516	0.92	1.00
7	rs12027635	g	229939821	1417	-	A	0.231	0.228	0.8411	1.02	1.00	0.217	0.242	0.2684	0.87	1.00	0.243	0.218	0.2114	1.15	1.00
7	rs11122325	i	229939924	103	-	A	0.178	0.182	0.7315	0.97	1.00	0.186	0.169	0.3783	1.13	1.00	0.171	0.192	0.2218	0.86	1.00
7	rs10864694	i	229940134	210	-	A	0.178	0.182	0.7315	0.97	1.00	0.186	0.169	0.3783	1.13	1.00	0.171	0.192	0.2218	0.86	1.00
7	rs2793098	i	229940766	632	-	G	0.215	0.216	0.9419	0.99	1.00	0.219	0.205	0.5052	1.09	1.00	0.211	0.224	0.5015	0.93	1.00
7	rs2793099	i	229941499	733	-	G	0.212	0.212	0.9961	1.00	1.00	0.218	0.201	0.4263	1.11	1.00	0.207	0.220	0.4842	0.92	1.00
7	rs4658941	i	229941823	324	-	T	0.178	0.182	0.7646	0.97	1.00	0.186	0.167	0.3419	1.14	1.00	0.171	0.192	0.2218	0.86	1.00
7	rs6659970	i	229942456	633	-	C	0.212	0.213	0.9633	1.00	1.00	0.218	0.202	0.4648	1.10	1.00	0.207	0.220	0.4842	0.92	1.00
7	rs12028200	i	229942866	410	-	A	0.181	0.184	0.7773	0.97	1.00	0.188	0.170	0.3790	1.13	1.00	0.175	0.196	0.2579	0.87	1.00
7	rs4658883	i	229943390	524	-	C	0.171	0.179	0.5187	0.94	1.00	0.181	0.164	0.4146	1.12	1.00	0.163	0.190	0.1172	0.83	1.00
7	rs2793093	i	229943696	306	-	A	0.212	0.213	0.9306	0.99	1.00	0.218	0.202	0.4648	1.10	1.00	0.207	0.221	0.4516	0.92	1.00
7	rs17816290	i	229944645	949	-	A	0.033	0.029	0.5239	1.14	1.00	0.029	0.033	0.7044	0.89	1.00	0.036	0.027	0.2355	1.37	1.00
7	rs10495308	i	229946190	1545	-	T	0.176	0.179	0.8245	0.98	1.00	0.185	0.164	0.3070	1.15	1.00	0.168	0.189	0.2367	0.87	1.00
7	rs10495309	i	229946215	25	-	T	0.176	0.178	0.8588	0.98	1.00	0.185	0.163	0.2750	1.16	1.00	0.168	0.189	0.2367	0.87	1.00
7	rs2793092	i	229946963	748	-	G	0.209	0.208	0.9468	1.01	1.00	0.215	0.198	0.4257	1.11	1.00	0.205	0.216	0.5443	0.93	1.00
7	rs12066910	i	229948355	1392	-	C	0.156	0.163	0.5750	0.95	1.00	0.168	0.154	0.4506	1.11	1.00	0.146	0.170	0.1525	0.83	1.00
7	rs11580595	i	229949634	1279	-	G	0.155	0.162	0.5723	0.95	1.00	0.168	0.152	0.4086	1.13	1.00	0.144	0.170	0.1336	0.82	1.00
7	rs6668920	i	229950066	432	-	T	0.358	0.350	0.6572	1.03	1.00	0.363	0.341	0.3910	1.10	1.00	0.353	0.357	0.8720	0.98	1.00
7	rs10864695	i	229951840	1774	-	G	0.149	0.163	0.2893	0.90	1.00	0.161	0.152	0.6390	1.07	1.00	0.140	0.171	0.0663	0.79	1.00
7	rs17748992	g	229959396	7556	-	T	0.086	0.101	0.1200	0.83	1.00	0.087	0.103	0.3110	0.83	1.00	0.084	0.101	0.2358	0.82	1.00
8	rs12076286	i	229959795	399	-	C	0.146	0.159	0.3211	0.91	1.00	0.156	0.155	0.9721	1.01	1.00	0.139	0.162	0.1691	0.84	1.00
8	rs12091717	i	229960687	892	-	G	0.136	0.148	0.3526	0.91	1.00	0.151	0.144	0.6920	1.06	1.00	0.124	0.150	0.1004	0.80	1.00
	rs2793091	i	229961231	544	-	A	0.256	0.248	0.6250	1.04	1.00	0.253	0.253	0.9979	1.00	1.00	0.258	0.245	0.5162	1.07	1.00
9	rs1538979	g	229963491	2260	-	A	0.135	0.118	0.1553	1.16	1.00	0.131	0.127	0.8281	1.04	1.00	0.138	0.112	0.0889	1.27	0.99
9	rs1538978	i	229963538	47	-	A	0.198	0.201	0.8463	0.98	1.00	0.197	0.202	0.8032	0.97	1.00	0.199	0.200	0.9689	1.00	1.00
10	rs17749164	g	229963830	292	-	C	0.423	0.412	0.5257	1.05	1.00	0.431	0.399	0.2117	1.14	1.00	0.416	0.421	0.8012	0.98	1.00
10	rs1538977	g	229963926	96	-	C	0.236	0.244	0.6188	0.96	1.00	0.233	0.240	0.7508	0.96	1.00	0.239	0.246	0.7127	0.96	1.00
10	rs17816686	g	229964053	127	-	T	0.456	0.454	0.8845	1.01	1.00	0.448	0.460	0.6640	0.95	1.00	0.463	0.449	0.5598	1.06	1.00

10	rs1538976	i	229964252	199	-	G	0.204	0.211	0.6209	0.96	1.00	0.201	0.211	0.6640	0.95	1.00	0.207	0.212	0.7870	0.97	1.00
10	rs2793086	i	229966327	2075	-	G	0.204	0.211	0.5898	0.95	1.00	0.200	0.211	0.6167	0.94	1.00	0.207	0.212	0.7870	0.97	1.00
10	rs2793085	i	229966500	173	-	C	0.121	0.126	0.6861	0.96	1.00	0.128	0.124	0.8118	1.04	1.00	0.116	0.128	0.4438	0.90	1.00
10	rs7529706	g	229966552	52	-	C	0.331	0.344	0.4410	0.94	1.00	0.333	0.341	0.7672	0.97	1.00	0.330	0.347	0.4449	0.93	1.00
10	rs11122331	g	229968753	2201	-	A	0.129	0.114	0.1916	1.15	1.00	0.122	0.122	0.9984	1.00	1.00	0.135	0.109	0.0805	1.28	0.99
10	rs3738402	i	229969633	880	L/L	T	0.018	0.016	0.7021	1.11	1.00	0.018	0.012	0.3621	1.49	1.00	0.018	0.020	0.8294	0.93	1.00
10	rs6663650	i	229970036	403	-	C	0.131	0.114	0.1343	1.17	1.00	0.122	0.120	0.8764	1.03	1.00	0.138	0.109	0.0623	1.30	1.00
10	rs2793101	g	229970901	865	-	T	0.103	0.106	0.7616	0.97	1.00	0.094	0.109	0.3375	0.85	1.00	0.110	0.104	0.6561	1.07	1.00
10	rs2492367	i	229973212	2311	I/I	T	0.108	0.110	0.8577	0.98	1.00	0.104	0.113	0.5976	0.91	1.00	0.111	0.108	0.8183	1.04	1.00
	rs16854940	i	229973470	258	-	T	0.018	0.016	0.7021	1.11	1.00	0.018	0.012	0.3621	1.49	1.00	0.018	0.020	0.8294	0.93	1.00
	rs2812386	i	229973726	256	-	T	0.024	0.019	0.3166	1.27	1.00	0.018	0.019	0.8913	0.95	1.00	0.028	0.019	0.1581	1.55	1.00
11	rs7534681	g	229974970	1244	-	G	0.371	0.363	0.6416	1.03	1.00	0.367	0.369	0.9423	0.99	1.00	0.373	0.358	0.4961	1.07	1.00
11	rs17749485	i	229975136	166	-	G	0.131	0.115	0.1639	1.16	1.00	0.124	0.121	0.8756	1.03	1.00	0.138	0.111	0.0849	1.28	1.00
11	rs12046794	g	229975378	242	-	A	0.154	0.139	0.2150	1.13	1.00	0.151	0.145	0.7411	1.05	1.00	0.157	0.135	0.1741	1.20	1.00
11	rs12046795	i	229975392	14	-	A	0.154	0.138	0.1873	1.14	1.00	0.150	0.141	0.6381	1.07	1.00	0.158	0.136	0.1780	1.19	1.00
12	rs2812389	g	229977634	2242	-	A	0.419	0.418	0.9342	1.01	1.00	0.445	0.382	0.0143	1.30	0.62	0.397	0.444	0.0416	0.82	0.91
12	rs2812390	i	229978221	587	-	C	0.443	0.446	0.8618	0.99	1.00	0.468	0.410	0.0265	1.26	0.95	0.423	0.473	0.0291	0.82	0.95
12	rs2812391	i	229978599	378	-	T	0.274	0.274	0.9869	1.00	1.00	0.263	0.303	0.0864	0.82	1.00	0.283	0.252	0.1333	1.17	1.00
12	rs16854954	g	229979215	616	-	C	0.281	0.281	0.9715	1.00	1.00	0.266	0.285	0.4153	0.91	1.00	0.294	0.277	0.4338	1.08	1.00
12	rs16854957	g	229979516	301	-	A	0.141	0.143	0.8643	0.98	1.00	0.147	0.154	0.7233	0.95	1.00	0.135	0.135	0.9581	1.01	1.00
12	rs2812392	i	229980276	760	-	A	0.439	0.445	0.7463	0.98	1.00	0.460	0.413	0.0725	1.21	1.00	0.423	0.469	0.0449	0.83	0.99
12	rs2812393 ⁹	g	229980296	20	-	G	0.435	0.440	0.7542	0.98	1.00	0.454	0.407	0.0747	1.21	0.99	0.419	0.465	0.0489	0.83	0.94
13	rs17766087	i	229984500	4204	-	G	0.149	0.155	0.6777	0.96	1.00	0.157	0.164	0.6985	0.95	1.00	0.143	0.147	0.8102	0.97	1.00
13	rs10495310	i	229985399	899	-	C	0.091	0.099	0.4145	0.91	1.00	0.076	0.110	0.0273	0.67	0.95	0.102	0.091	0.3921	1.14	1.00
13	rs4658945	i	229985464	65	-	C	0.317	0.306	0.4847	1.05	1.00	0.324	0.315	0.7313	1.04	1.00	0.311	0.298	0.5435	1.06	1.00
14	rs16854967	i	229985969	505	-	G	0.151	0.149	0.8775	1.02	1.00	0.138	0.139	0.9521	0.99	1.00	0.161	0.156	0.7694	1.04	1.00
14	rs11122334	i	229986209	240	-	T	0.170	0.176	0.6680	0.96	1.00	0.174	0.177	0.8795	0.98	1.00	0.167	0.175	0.6542	0.95	1.00
14	rs17817356	g	229986844	635	-	A	0.440	0.445	0.7999	0.98	1.00	0.455	0.435	0.4357	1.09	1.00	0.428	0.452	0.2991	0.91	1.00
14	rs12754402	g	229987478	634	-	T	0.483	0.487	0.8147	0.98	1.00	0.500	0.475	0.3450	1.11	1.00	0.469	0.496	0.2460	0.90	1.00
14	rs11576260	i	229988824	1346	-	T	0.481	0.484	0.8656	0.99	1.00	0.492	0.472	0.4406	1.08	1.00	0.473	0.494	0.3642	0.92	1.00
14	rs17817463 ⁹	g	229988905	81	-	A	0.145	0.145	0.9623	1.01	1.00	0.132	0.133	0.9417	0.99	1.00	0.156	0.153	0.8575	1.02	1.00
14	rs4310431	i	229989182	277	-	C	0.169	0.176	0.6335	0.96	1.00	0.174	0.177	0.8795	0.98	1.00	0.166	0.175	0.6076	0.94	1.00
14	rs12144056	i	229989221	39	-	A	0.101	0.078	0.0215	1.33	0.91	0.111	0.080	0.0445	1.43	0.99	0.092	0.076	0.2168	1.23	1.00
14	rs11590192	i	229989468	247	-	C	0.482	0.485	0.8410	0.99	1.00	0.497	0.473	0.3517	1.10	1.00	0.469	0.495	0.2721	0.90	1.00
14	rs6672139	i	229989860	392	-	C	0.251	0.231	0.1792	1.12	1.00	0.250	0.227	0.3010	1.14	1.00	0.252	0.235	0.3750	1.10	1.00
14	rs9803690	g	229989968	108	-	G	0.415	0.395	0.2460	1.09	1.00	0.410	0.381	0.2534	1.13	1.00	0.419	0.406	0.5673	1.06	1.00
14	rs4385690	i	229990884	916	-	A	0.251	0.232	0.1925	1.11	1.00	0.250	0.228	0.3308	1.13	1.00	0.252	0.235	0.3750	1.10	1.00
14	rs4325116	g	229991664	780	-	G	0.393	0.375	0.3054	1.08	1.00	0.396	0.369	0.2945	1.12	1.00	0.390	0.380	0.6566	1.04	1.00
14	rs4332347	i	229992690	1026	-	G	0.149	0.145	0.7348	1.03	1.00	0.135	0.133	0.9299	1.01	1.00	0.161	0.154	0.6779	1.05	1.00
14	rs16854974	i	229993523	833	-	G	0.104	0.088	0.1194	1.20	1.00	0.115	0.095	0.2096	1.24	1.00	0.094	0.082	0.3621	1.16	1.00

14	rs2738888	i	229993677	154	-	C	0.148	0.144	0.7773	1.03	1.00	0.135	0.133	0.9299	1.01	1.00	0.158	0.152	0.7354	1.04	1.00
14	rs9431997	g	229994003	326	-	G	0.105	0.087	0.0789	1.23	0.99	0.116	0.094	0.1729	1.27	1.00	0.096	0.082	0.2829	1.19	1.00
14	rs12403256	i	229994217	214	-	A	0.054	0.053	0.8299	1.03	1.00	0.063	0.057	0.6618	1.10	1.00	0.048	0.049	0.8686	0.96	1.00
14	rs12130935	i	229995177	960	-	T	0.104	0.088	0.1194	1.20	1.00	0.115	0.095	0.2096	1.24	1.00	0.094	0.082	0.3621	1.16	1.00
14	rs1322784	g	229995558	381	-	C	0.265	0.249	0.3115	1.08	1.00	0.269	0.255	0.5446	1.08	1.00	0.262	0.245	0.4252	1.09	1.00
14	rs1322783 ⁹	g	229995698	140	-	T	0.147	0.156	0.4842	0.93	1.00	0.136	0.154	0.3356	0.87	1.00	0.156	0.157	0.9485	0.99	1.00
14	rs9432000	i	229995948	250	-	A	0.104	0.088	0.1194	1.20	1.00	0.115	0.095	0.2096	1.24	1.00	0.094	0.082	0.3621	1.16	1.00
14	rs9432002	i	229996155	207	-	C	0.106	0.088	0.0732	1.24	1.00	0.119	0.095	0.1333	1.29	1.00	0.095	0.082	0.3199	1.18	1.00
14	rs1998406	i	229996579	424	-	G	0.258	0.241	0.2621	1.09	1.00	0.260	0.243	0.4676	1.09	1.00	0.256	0.239	0.3968	1.10	1.00
14	rs17817721	i	229998662	2083	-	C	0.146	0.145	0.9342	1.01	1.00	0.135	0.136	0.9490	0.99	1.00	0.155	0.151	0.8432	1.03	1.00
14	rs2738887	i	230000385	1723	-	C	0.254	0.238	0.2658	1.09	1.00	0.258	0.238	0.3637	1.12	1.00	0.251	0.238	0.5000	1.08	1.00
14	rs7514199	i	230001325	940	-	T	0.254	0.238	0.2658	1.09	1.00	0.258	0.238	0.3637	1.12	1.00	0.251	0.238	0.5000	1.08	1.00
14	rs2255340	g	230002773	1448	-	A	0.255	0.244	0.4554	1.06	1.00	0.261	0.248	0.5840	1.07	1.00	0.251	0.241	0.6215	1.06	1.00
14	rs2738864	g	230004103	1330	-	T	0.255	0.244	0.4554	1.06	1.00	0.261	0.248	0.5840	1.07	1.00	0.251	0.241	0.6215	1.06	1.00
14	rs9432010	i	230007460	3357	-	G	0.106	0.090	0.1198	1.20	1.00	0.119	0.098	0.1848	1.25	1.00	0.095	0.084	0.4040	1.15	1.00
15	rs2738875	i	230011996	4536	-	T	0.072	0.090	0.0622	0.79	1.00	0.067	0.096	0.0380	0.67	0.98	0.076	0.084	0.5157	0.89	1.00
15	rs1407598	g	230013448	1452	-	C	0.261	0.250	0.4783	1.06	1.00	0.273	0.240	0.1540	1.19	1.00	0.251	0.258	0.7471	0.97	1.00
15	rs4658949	i	230014942	1494	-	T	0.287	0.295	0.6295	0.96	1.00	0.276	0.310	0.1617	0.85	1.00	0.296	0.283	0.5523	1.06	1.00
15	rs967244	i	230015269	327	-	G	0.138	0.162	0.0591	0.83	1.00	0.140	0.170	0.1194	0.80	1.00	0.136	0.155	0.2483	0.86	1.00
16	rs2759346	g	230015444	175	-	T	0.372	0.383	0.5280	0.96	1.00	0.377	0.385	0.7463	0.97	1.00	0.368	0.381	0.5694	0.95	1.00
16	rs2759345	g	230015562	118	-	A	0.371	0.368	0.8950	1.01	1.00	0.355	0.376	0.4083	0.91	1.00	0.383	0.362	0.3585	1.09	1.00
16	rs17766890	i	230015955	393	-	T	0.067	0.071	0.6526	0.94	1.00	0.071	0.069	0.9084	1.02	1.00	0.064	0.072	0.4745	0.88	1.00
	rs2738877	i	230016229	274	-	T	0.261	0.293	0.0396	0.85	0.98	0.268	0.291	0.3344	0.89	1.00	0.256	0.295	0.0572	0.82	1.00
17	rs11122342	i	230020001	3772	-	T	0.257	0.251	0.6778	1.03	1.00	0.268	0.242	0.2512	1.15	1.00	0.248	0.257	0.6394	0.95	1.00
17	rs7548597	i	230020052	51	-	T	0.217	0.211	0.6991	1.03	1.00	0.221	0.204	0.4269	1.11	1.00	0.214	0.217	0.8572	0.98	1.00
17	rs2759341	i	230020262	210	-	G	0.095	0.114	0.0809	0.82	1.00	0.096	0.126	0.0640	0.73	1.00	0.094	0.104	0.4908	0.90	1.00
17	rs2738880	i	230020522	260	-	G	0.056	0.049	0.3628	1.15	1.00	0.056	0.043	0.2879	1.29	1.00	0.056	0.052	0.7600	1.07	1.00
17	rs6672782	i	230020617	95	-	G	0.151	0.141	0.4378	1.08	1.00	0.147	0.135	0.4857	1.11	1.00	0.153	0.146	0.6592	1.06	1.00
17	rs6675281	g	230020724	107	L/F	T	0.153	0.145	0.5429	1.06	1.00	0.150	0.140	0.5914	1.08	1.00	0.155	0.149	0.7200	1.05	1.00
17	rs12133766	i	230020768	44	L/L	A	0.067	0.070	0.7006	0.95	1.00	0.072	0.069	0.8275	1.05	1.00	0.063	0.071	0.4655	0.87	1.00
17	rs1535530	i	230021050	282	-	C	0.316	0.329	0.4530	0.95	1.00	0.318	0.336	0.4756	0.92	1.00	0.315	0.323	0.7029	0.96	1.00
18	rs1535529	g	230021232	182	-	T	0.258	0.247	0.4733	1.06	1.00	0.270	0.237	0.1615	1.19	1.00	0.249	0.255	0.7748	0.97	1.00
18	rs2295959	i	230021305	73	-	T	0.056	0.049	0.3628	1.15	1.00	0.056	0.043	0.2879	1.29	1.00	0.056	0.052	0.7600	1.07	1.00
18	rs11588937	i	230021495	190	-	T	0.303	0.306	0.8761	0.99	1.00	0.294	0.314	0.4208	0.91	1.00	0.310	0.299	0.6126	1.05	1.00
18	rs2759340	g	230021977	482	-	C	0.444	0.448	0.8001	0.98	1.00	0.444	0.453	0.7250	0.96	1.00	0.443	0.444	0.9721	1.00	1.00
18	rs2759339	i	230022284	307	-	T	0.056	0.049	0.3628	1.15	1.00	0.056	0.043	0.2879	1.29	1.00	0.056	0.052	0.7600	1.07	1.00
18	rs2759338	i	230022349	65	-	T	0.056	0.049	0.3628	1.15	1.00	0.056	0.043	0.2879	1.29	1.00	0.056	0.052	0.7600	1.07	1.00
18	rs12135059 ⁹	g	230022529	180	-	A	0.285	0.278	0.6689	1.03	1.00	0.280	0.277	0.8956	1.02	1.00	0.289	0.280	0.6410	1.05	1.00
18	rs11122343	i	230022709	180	-	A	0.411	0.415	0.7937	0.98	1.00	0.422	0.410	0.6452	1.05	1.00	0.401	0.419	0.4422	0.93	1.00
18	rs12143549 ⁹	g	230022991	282	-	T	0.285	0.278	0.6689	1.03	1.00	0.280	0.277	0.8956	1.02	1.00	0.289	0.280	0.6410	1.05	1.00

18	rs16855090	i	230023682	691	-	A	0.056	0.048	0.3228	1.17	1.00	0.056	0.043	0.2879	1.29	1.00	0.056	0.051	0.6853	1.09	1.00
18	rs16855093	i	230023959	277	-	T	0.056	0.048	0.3228	1.17	1.00	0.056	0.043	0.2879	1.29	1.00	0.056	0.051	0.6853	1.09	1.00
18	rs16855096	i	230024901	942	-	T	0.056	0.048	0.3228	1.17	1.00	0.056	0.043	0.2879	1.29	1.00	0.056	0.051	0.6853	1.09	1.00
18	rs7528672	i	230025683	782	-	T	0.284	0.278	0.6884	1.03	1.00	0.279	0.276	0.8865	1.02	1.00	0.289	0.280	0.6749	1.04	1.00
18	rs2759330	g	230026777	1094	-	T	0.255	0.249	0.6949	1.03	1.00	0.264	0.239	0.2831	1.14	1.00	0.247	0.256	0.6719	0.96	1.00
18	rs16855108	i	230026800	23	-	C	0.153	0.146	0.5539	1.06	1.00	0.149	0.145	0.8618	1.03	1.00	0.157	0.146	0.5199	1.09	1.00
18	rs2759329	g	230026975	175	-	C	0.388	0.402	0.4193	0.94	1.00	0.385	0.410	0.3366	0.90	1.00	0.390	0.395	0.8134	0.98	1.00
18	rs7532658	i	230027524	549	-	T	0.031	0.032	0.9519	0.99	1.00	0.025	0.024	0.9468	1.02	1.00	0.036	0.037	0.9387	0.98	1.00
18	rs1000731	g	230030114	2590	-	A	0.257	0.249	0.5778	1.05	1.00	0.269	0.240	0.2024	1.17	1.00	0.248	0.256	0.6936	0.96	1.00
18	rs1000730	i	230030224	110	-	T	0.359	0.352	0.6524	1.03	1.00	0.351	0.359	0.7708	0.97	1.00	0.366	0.347	0.3887	1.09	1.00
18	rs6667141	i	230031254	1030	-	T	0.284	0.279	0.7748	1.02	1.00	0.279	0.276	0.8865	1.02	1.00	0.288	0.282	0.7894	1.03	1.00
18	rs12729026	i	230032588	1334	-	A	0.284	0.279	0.7445	1.03	1.00	0.279	0.276	0.8865	1.02	1.00	0.289	0.282	0.7482	1.03	1.00
18	rs6674099	i	230033485	897	-	G	0.439	0.444	0.7721	0.98	1.00	0.438	0.447	0.7149	0.96	1.00	0.441	0.442	0.9490	0.99	1.00
18	rs11589087	i	230036900	3415	-	T	0.304	0.304	0.9963	1.00	1.00	0.294	0.315	0.3893	0.91	1.00	0.313	0.296	0.4490	1.08	1.00
18	rs12406166	i	230037241	341	-	G	0.340	0.323	0.2879	1.08	1.00	0.336	0.310	0.2827	1.13	1.00	0.343	0.332	0.6210	1.05	1.00
18	rs12744978 ⁹	g	230038154	913	-	G	0.287	0.281	0.7194	1.03	1.00	0.283	0.273	0.6705	1.05	1.00	0.291	0.288	0.8979	1.01	1.00
18	rs12132978	i	230038608	454	-	C	0.286	0.280	0.7112	1.03	1.00	0.282	0.270	0.6217	1.06	1.00	0.290	0.288	0.9355	1.01	1.00
18	rs11122347 ⁹	g	230038649	41	-	G	0.343	0.329	0.3955	1.07	1.00	0.339	0.317	0.3798	1.10	1.00	0.346	0.338	0.6989	1.04	1.00
18	rs7551537	i	230038840	191	-	T	0.353	0.367	0.4029	0.94	1.00	0.367	0.370	0.9087	0.99	1.00	0.342	0.365	0.2976	0.90	1.00
18	rs17768115	g	230039434	594	-	G	0.221	0.211	0.5035	1.06	1.00	0.212	0.202	0.6646	1.06	1.00	0.228	0.217	0.5856	1.06	1.00
18	rs16841582 ⁹	g	230040257	823	-	C	0.356	0.369	0.4322	0.94	1.00	0.369	0.373	0.8794	0.98	1.00	0.345	0.366	0.3429	0.91	1.00
18	rs6700577	g	230040500	243	-	A	0.096	0.115	0.0802	0.82	0.99	0.097	0.129	0.0517	0.72	0.96	0.096	0.105	0.5368	0.91	1.00
19	rs6663190	i	230040545	45	-	G	0.386	0.396	0.5512	0.96	1.00	0.399	0.400	0.9737	1.00	1.00	0.376	0.394	0.4294	0.93	1.00
19	rs12135837	i	230040734	189	-	C	0.064	0.070	0.5429	0.92	1.00	0.069	0.068	0.9093	1.02	1.00	0.060	0.071	0.3512	0.84	1.00
19	rs12087793	i	230041014	280	-	A	0.241	0.244	0.8461	0.98	1.00	0.239	0.242	0.8949	0.98	1.00	0.243	0.246	0.8925	0.99	1.00
20	rs12139080	i	230044175	3161	-	G	0.066	0.080	0.1074	0.81	1.00	0.065	0.088	0.0991	0.72	1.00	0.066	0.074	0.4922	0.88	1.00
20	rs12120638	i	230045142	967	-	G	0.051	0.058	0.3962	0.88	1.00	0.053	0.057	0.7196	0.92	1.00	0.050	0.059	0.4134	0.84	1.00
20	rs4658954	i	230045980	838	-	G	0.371	0.369	0.9141	1.01	1.00	0.372	0.353	0.4518	1.09	1.00	0.371	0.382	0.6183	0.95	1.00
21	rs2146376	i	230046965	985	-	A	0.183	0.198	0.2800	0.91	1.00	0.193	0.227	0.1130	0.82	1.00	0.175	0.176	0.9583	0.99	1.00
21	rs12731570	i	230048561	1596	-	A	0.184	0.199	0.2819	0.91	1.00	0.193	0.228	0.0997	0.81	1.00	0.176	0.176	0.9905	1.00	1.00
21	rs12735632	i	230048639	78	-	T	0.184	0.199	0.3031	0.91	1.00	0.194	0.228	0.1142	0.82	1.00	0.176	0.176	0.9905	1.00	1.00
21	rs11588799	i	230048894	255	-	A	0.393	0.368	0.1319	1.11	1.00	0.393	0.341	0.0395	1.25	0.99	0.393	0.388	0.8146	1.02	1.00
21	rs9432013	i	230049220	326	-	C	0.058	0.052	0.4956	1.11	1.00	0.057	0.050	0.5718	1.14	1.00	0.058	0.054	0.6760	1.09	1.00
21	rs12139880	g	230050383	1163	-	C	0.256	0.264	0.6177	0.96	1.00	0.257	0.270	0.5942	0.94	1.00	0.255	0.260	0.8377	0.98	1.00
21	rs12139117	i	230050446	63	-	G	0.263	0.269	0.6849	0.97	1.00	0.267	0.273	0.7823	0.97	1.00	0.259	0.265	0.7567	0.97	1.00
21	rs17819668	i	230051029	583	-	A	0.354	0.345	0.5914	1.04	1.00	0.353	0.326	0.2822	1.13	1.00	0.355	0.359	0.8397	0.98	1.00
21	rs11122348 ⁹	g	230051140	111	-	T	0.184	0.194	0.4424	0.93	1.00	0.196	0.220	0.2599	0.86	1.00	0.174	0.175	0.9400	0.99	1.00
21	rs16855239	i	230051264	124	-	T	0.182	0.194	0.3580	0.92	1.00	0.194	0.220	0.2272	0.86	1.00	0.172	0.175	0.8511	0.98	1.00
21	rs12090070	g	230051472	208	-	A	0.137	0.133	0.7266	1.04	1.00	0.119	0.127	0.6293	0.93	1.00	0.152	0.137	0.3620	1.13	1.00
21	rs4575071	i	230052154	682	-	A	0.353	0.332	0.2134	1.10	1.00	0.351	0.313	0.1151	1.19	1.00	0.353	0.347	0.7627	1.03	1.00

21	rs4459095	i	230052203	49	-	A	0.136	0.132	0.7403	1.03	1.00	0.119	0.128	0.6316	0.93	1.00	0.150	0.136	0.3828	1.12	1.00
21	rs6677522	i	230052256	53	-	T	0.136	0.132	0.7403	1.03	1.00	0.119	0.128	0.6316	0.93	1.00	0.150	0.136	0.3828	1.12	1.00
21	rs16855254	i	230052287	31	-	C	0.018	0.020	0.6101	0.88	1.00	0.017	0.023	0.3799	0.72	1.00	0.018	0.017	0.9105	1.04	1.00
21	rs6677638	g	230052351	64	-	T	0.138	0.133	0.6875	1.04	1.00	0.120	0.127	0.6884	0.94	1.00	0.152	0.137	0.3620	1.13	1.00
21	rs12093976	i	230053156	805	-	A	0.018	0.020	0.6101	0.88	1.00	0.017	0.023	0.3799	0.72	1.00	0.018	0.017	0.9105	1.04	1.00
21	rs9432014	i	230053752	596	-	A	0.136	0.132	0.7403	1.03	1.00	0.119	0.128	0.6316	0.93	1.00	0.150	0.136	0.3828	1.12	1.00
21	rs11580219	i	230053772	20	-	C	0.381	0.396	0.3532	0.94	1.00	0.376	0.412	0.1682	0.86	1.00	0.384	0.385	0.9759	1.00	1.00
21	rs4658958	i	230054516	744	-	G	0.182	0.194	0.3580	0.92	1.00	0.194	0.220	0.2272	0.86	1.00	0.172	0.175	0.8511	0.98	1.00
21	rs12751370	g	230055037	521	-	G	0.356	0.335	0.2019	1.10	1.00	0.355	0.317	0.1261	1.19	1.00	0.357	0.348	0.6987	1.04	1.00
21	rs9431696	i	230055317	280	-	A	0.018	0.020	0.7080	0.91	1.00	0.018	0.023	0.4983	0.78	1.00	0.018	0.017	0.9105	1.04	1.00
21	rs2146375	i	230055375	58	-	T	0.136	0.132	0.7403	1.03	1.00	0.119	0.128	0.6316	0.93	1.00	0.150	0.136	0.3828	1.12	1.00
21	rs9431699	i	230055477	102	-	T	0.018	0.020	0.7080	0.91	1.00	0.018	0.023	0.4983	0.78	1.00	0.018	0.017	0.9105	1.04	1.00
21	rs11588004	i	230055819	342	-	G	0.353	0.332	0.1999	1.10	1.00	0.353	0.313	0.1029	1.20	1.00	0.353	0.347	0.7627	1.03	1.00
21	rs12140495	i	230055927	108	-	A	0.181	0.194	0.3341	0.92	1.00	0.194	0.220	0.2272	0.86	1.00	0.171	0.175	0.8006	0.97	1.00
21	rs1079344	i	230058720	2793	-	T	0.353	0.332	0.1999	1.10	1.00	0.353	0.313	0.1029	1.20	1.00	0.353	0.347	0.7627	1.03	1.00
21	rs4546903	i	230058747	27	-	A	0.181	0.194	0.3341	0.92	1.00	0.194	0.220	0.2272	0.86	1.00	0.171	0.175	0.8006	0.97	1.00
21	rs748583	i	230059461	714	-	G	0.358	0.337	0.2080	1.10	1.00	0.357	0.315	0.0919	1.21	1.00	0.358	0.353	0.8198	1.02	1.00
21	rs12730369	i	230060361	900	-	T	0.181	0.194	0.3559	0.92	1.00	0.194	0.220	0.2272	0.86	1.00	0.171	0.174	0.8459	0.98	1.00
21	rs734551	g	230061056	695	-	T	0.466	0.479	0.4831	0.95	1.00	0.451	0.472	0.4178	0.92	1.00	0.479	0.483	0.8552	0.98	1.00
21	rs7549664	i	230063332	2276	-	T	0.461	0.467	0.7042	0.97	1.00	0.449	0.463	0.5733	0.94	1.00	0.471	0.470	0.9900	1.00	1.00
21	rs12757857	i	230065486	2154	-	C	0.461	0.467	0.7042	0.97	1.00	0.449	0.462	0.6092	0.95	1.00	0.471	0.471	0.9746	1.00	1.00
21	rs3081	i	230068955	3469	-	G	0.039	0.040	0.8806	0.97	1.00	0.033	0.041	0.4534	0.81	1.00	0.044	0.040	0.6536	1.11	1.00
21	rs1407601	i	230070035	1080	-	G	0.134	0.138	0.7877	0.97	1.00	0.118	0.133	0.3850	0.87	1.00	0.148	0.141	0.6782	1.06	1.00
21	rs1407600	i	230070174	139	-	G	0.127	0.131	0.7142	0.96	1.00	0.113	0.125	0.4611	0.89	1.00	0.139	0.136	0.8595	1.02	1.00
21	rs9432017	i	230070591	417	-	A	0.117	0.122	0.6637	0.95	1.00	0.100	0.111	0.4790	0.89	1.00	0.131	0.130	0.9464	1.01	1.00
22	rs9432024	i	230073842	3251	-	C	0.336	0.360	0.1499	0.90	1.00	0.313	0.397	0.0008	0.69	0.12	0.355	0.331	0.2919	1.11	1.00
22	rs1015101	g	230074317	475	-	G	0.425	0.393	0.0594	1.14	0.97	0.458	0.363	0.0002	1.48	0.02	0.398	0.415	0.4608	0.93	1.00
22	rs9432025	i	230074347	30	-	C	0.446	0.482	0.0339	0.86	0.97	0.436	0.514	0.0031	0.73	0.36	0.453	0.459	0.8145	0.98	1.00
22	rs9431706	i	230074383	36	-	A	0.446	0.482	0.0339	0.86	0.97	0.436	0.514	0.0031	0.73	0.36	0.453	0.459	0.8145	0.98	1.00
22	rs7553949	i	230074415	32	-	G	0.446	0.482	0.0339	0.86	0.97	0.436	0.514	0.0031	0.73	0.36	0.453	0.459	0.8145	0.98	1.00
22	rs1475148	i	230074824	409	-	A	0.093	0.111	0.0845	0.82	1.00	0.103	0.103	0.9758	0.99	1.00	0.084	0.116	0.0218	0.70	0.91
22	rs6668845	i	230075170	346	-	G	0.093	0.111	0.0845	0.82	1.00	0.103	0.103	0.9758	0.99	1.00	0.084	0.116	0.0218	0.70	0.91
22	rs6671423	i	230075280	110	-	C	0.093	0.111	0.0845	0.82	1.00	0.103	0.103	0.9758	0.99	1.00	0.084	0.116	0.0218	0.70	0.91
22	rs6541289	i	230075385	105	-	A	0.093	0.111	0.0845	0.82	1.00	0.103	0.103	0.9758	0.99	1.00	0.084	0.116	0.0218	0.70	0.91
22	rs7523846	i	230075483	98	-	G	0.093	0.111	0.0845	0.82	1.00	0.103	0.103	0.9758	0.99	1.00	0.084	0.116	0.0218	0.70	0.91
22	rs7512173	i	230075529	46	-	T	0.093	0.111	0.0845	0.82	1.00	0.103	0.103	0.9758	0.99	1.00	0.084	0.116	0.0218	0.70	0.91
22	rs9432028	i	230075733	204	-	A	0.353	0.371	0.2636	0.92	1.00	0.333	0.409	0.0028	0.72	0.34	0.368	0.343	0.2504	1.12	1.00
22	rs9431708	i	230076025	292	-	G	0.445	0.482	0.0310	0.86	0.96	0.436	0.514	0.0031	0.73	0.36	0.452	0.459	0.7766	0.97	1.00
22	rs7418900	i	230076171	146	-	G	0.093	0.111	0.0845	0.82	1.00	0.103	0.103	0.9758	0.99	1.00	0.084	0.116	0.0218	0.70	0.91
22	rs999710	g	230077566	1395	-	T	0.425	0.392	0.0506	1.15	0.95	0.458	0.363	0.0002	1.48	0.02	0.398	0.413	0.5171	0.94	1.00

22	rs7549204	i	230077793	227	-	A	0.198	0.216	0.2025	0.90	1.00	0.186	0.228	0.0473	0.77	0.99	0.207	0.206	0.9552	1.01	1.00
22	rs999708	i	230078214	421	-	G	0.445	0.482	0.0310	0.86	0.96	0.436	0.514	0.0031	0.73	0.36	0.452	0.459	0.7766	0.97	1.00
22	rs1009587	i	230078572	358	-	A	0.427	0.394	0.0549	1.15	1.00	0.457	0.364	0.0003	1.47	0.05	0.402	0.417	0.5294	0.94	1.00
22	rs7521943	i	230079315	743	-	C	0.093	0.111	0.0845	0.82	1.00	0.103	0.103	0.9758	0.99	1.00	0.084	0.116	0.0218	0.70	0.91
22	rs7522155	i	230079526	211	-	C	0.093	0.111	0.0845	0.82	1.00	0.103	0.103	0.9758	0.99	1.00	0.084	0.116	0.0218	0.70	0.91
22	rs7519741	i	230079593	67	-	A	0.128	0.123	0.6534	1.05	1.00	0.107	0.121	0.4014	0.87	1.00	0.146	0.125	0.1865	1.20	1.00
22	rs11122355	g	230079816	223	-	T	0.129	0.124	0.6779	1.05	1.00	0.106	0.122	0.3577	0.86	1.00	0.147	0.125	0.1751	1.20	1.00
22	rs9431711	g	230080135	319	-	A	0.196	0.216	0.1549	0.88	1.00	0.183	0.230	0.0268	0.75	0.83	0.207	0.206	0.9507	1.01	1.00
22	rs9432040	i	230080739	604	-	G	0.445	0.482	0.0310	0.86	0.96	0.436	0.514	0.0031	0.73	0.36	0.452	0.459	0.7766	0.97	1.00
22	rs12746755	i	230080936	197	-	A	0.017	0.013	0.3419	1.32	1.00	0.021	0.015	0.3964	1.40	1.00	0.014	0.011	0.6526	1.21	1.00
22	rs7535913	i	230081033	97	-	T	0.353	0.371	0.2636	0.92	1.00	0.333	0.409	0.0028	0.72	0.34	0.368	0.343	0.2504	1.12	1.00
22	rs2356606	i	230081663	630	-	G	0.198	0.216	0.1884	0.89	1.00	0.186	0.230	0.0409	0.77	0.99	0.207	0.206	0.9552	1.01	1.00
22	rs7534369	i	230082857	1194	-	A	0.353	0.371	0.2636	0.92	1.00	0.333	0.409	0.0028	0.72	0.34	0.368	0.343	0.2504	1.12	1.00
22	rs12740724	i	230083249	392	-	G	0.353	0.371	0.2636	0.92	1.00	0.333	0.409	0.0028	0.72	0.34	0.368	0.343	0.2504	1.12	1.00
22	rs11122357	i	230083676	427	-	A	0.353	0.371	0.2636	0.92	1.00	0.333	0.409	0.0028	0.72	0.34	0.368	0.343	0.2504	1.12	1.00
22	rs2181310	i	230084039	363	-	T	0.128	0.123	0.6534	1.05	1.00	0.107	0.121	0.4014	0.87	1.00	0.146	0.125	0.1865	1.20	1.00
22	rs10864698	i	230084512	473	-	A	0.093	0.111	0.0845	0.82	1.00	0.103	0.103	0.9758	0.99	1.00	0.084	0.116	0.0218	0.70	0.91
22	rs17820909	g	230084608	96	-	G	0.088	0.085	0.7779	1.04	1.00	0.085	0.094	0.5621	0.90	1.00	0.090	0.079	0.3721	1.16	1.00
22	rs4658889	i	230086433	1825	-	A	0.128	0.123	0.6534	1.05	1.00	0.107	0.121	0.4014	0.87	1.00	0.146	0.125	0.1865	1.20	1.00
22	rs11122362	g	230086482	49	-	T	0.094	0.111	0.1008	0.83	1.00	0.104	0.105	0.9344	0.99	1.00	0.086	0.116	0.0323	0.71	0.85
22	rs9431714	i	230087871	1389	-	A	0.353	0.371	0.2636	0.92	1.00	0.333	0.409	0.0028	0.72	0.34	0.368	0.343	0.2504	1.12	1.00
22	rs1322786	i	230089729	1858	-	T	0.128	0.123	0.6534	1.05	1.00	0.107	0.121	0.4014	0.87	1.00	0.146	0.125	0.1865	1.20	1.00
22	rs1322785	i	230089824	95	-	C	0.128	0.123	0.6534	1.05	1.00	0.107	0.121	0.4014	0.87	1.00	0.146	0.125	0.1865	1.20	1.00
22	rs4658890	g	230090704	880	-	G	0.477	0.493	0.3688	0.94	1.00	0.441	0.529	0.0008	0.70	0.07	0.507	0.466	0.0790	1.18	0.99
22	rs1040944	i	230090728	24	-	G	0.128	0.123	0.6534	1.05	1.00	0.107	0.121	0.4014	0.87	1.00	0.146	0.125	0.1865	1.20	1.00
22	rs4333837	g	230091773	1045	-	G	0.390	0.360	0.0694	1.14	0.98	0.417	0.330	0.0006	1.46	0.05	0.368	0.382	0.5389	0.94	1.00
22	rs9659649	i	230094131	2358	-	T	0.305	0.316	0.4883	0.95	1.00	0.285	0.332	0.0532	0.80	1.00	0.322	0.305	0.4289	1.08	1.00
22	rs1407599	i	230094534	403	-	T	0.386	0.355	0.0612	1.14	1.00	0.415	0.327	0.0005	1.46	0.08	0.363	0.376	0.5622	0.95	1.00
22	rs11122366	g	230095958	1424	-	A	0.106	0.118	0.2749	0.89	1.00	0.115	0.115	0.9947	1.00	1.00	0.098	0.120	0.1383	0.80	1.00
22	rs973607	i	230096488	530	-	A	0.128	0.123	0.6534	1.05	1.00	0.107	0.120	0.4475	0.88	1.00	0.146	0.126	0.2098	1.19	1.00
23	rs1772686	i	230097002	514	-	A	0.319	0.344	0.1288	0.89	1.00	0.314	0.359	0.0705	0.82	1.00	0.324	0.333	0.6649	0.96	1.00
23	rs12036931	i	230097706	704	-	C	0.104	0.117	0.2443	0.88	1.00	0.114	0.113	0.9464	1.01	1.00	0.097	0.120	0.1011	0.78	1.00
23	rs12036218	i	230097783	77	-	G	0.104	0.117	0.2443	0.88	1.00	0.114	0.113	0.9464	1.01	1.00	0.097	0.120	0.1011	0.78	1.00
23	rs11585831	g	230098200	417	-	A	0.048	0.051	0.7141	0.94	1.00	0.050	0.051	0.9432	0.98	1.00	0.046	0.051	0.6602	0.91	1.00
23	rs967433	g	230098438	238	-	C	0.470	0.483	0.4291	0.95	1.00	0.445	0.490	0.0880	0.83	1.00	0.490	0.478	0.6285	1.05	1.00
23	rs967434	i	230098775	337	-	A	0.458	0.472	0.4274	0.95	1.00	0.429	0.484	0.0368	0.80	0.98	0.482	0.463	0.4170	1.08	1.00
23	rs7514897	i	230099554	779	-	A	0.104	0.117	0.2443	0.88	1.00	0.114	0.113	0.9464	1.01	1.00	0.097	0.120	0.1011	0.78	1.00
23	rs6541290	i	230100101	547	-	T	0.104	0.117	0.2443	0.88	1.00	0.114	0.113	0.9464	1.01	1.00	0.097	0.120	0.1011	0.78	1.00
23	rs17770256	g	230100175	74	-	A	0.064	0.049	0.0554	1.34	0.96	0.073	0.037	0.0032	2.02	0.22	0.057	0.057	0.9836	1.00	1.00
23	rs17770286	i	230101807	1632	-	G	0.161	0.143	0.1540	1.15	1.00	0.178	0.139	0.0404	1.34	0.99	0.148	0.147	0.9706	1.01	1.00

23	rs821723	g	230101819	12	-	C	0.129	0.124	0.6779	1.05	1.00	0.109	0.119	0.5566	0.91	1.00	0.145	0.127	0.2791	1.16	1.00
23	rs10864701	i	230101907	88	-	A	0.103	0.117	0.1976	0.87	1.00	0.114	0.114	0.9884	1.00	1.00	0.093	0.118	0.0798	0.77	1.00
	rs821722	i	230102653	746	-	A	0.339	0.363	0.1550	0.90	1.00	0.331	0.383	0.0363	0.79	0.98	0.347	0.348	0.9588	1.00	1.00
	rs860275^p	g	230102768	115	-	C	0.131	0.156	0.0451	0.82	0.93	0.142	0.152	0.5597	0.92	1.00	0.123	0.158	0.0287	0.74	0.82
	rs11577215	g	230103529	761	-	G	0.082	0.084	0.8534	0.98	1.00	0.088	0.076	0.4055	1.17	1.00	0.076	0.089	0.3281	0.85	1.00
	rs7523326	i	230107253	3724	-	A	0.012	0.012	0.9120	0.97	1.00	0.008	0.012	0.4618	0.68	1.00	0.015	0.012	0.6513	1.20	1.00
	rs2027457	i	230116838	9585	-	T	0.012	0.012	0.9120	0.97	1.00	0.008	0.012	0.4618	0.68	1.00	0.015	0.012	0.6513	1.20	1.00
	rs10864702	g	230117276	438	-	C	0.106	0.113	0.5380	0.93	1.00	0.112	0.104	0.6180	1.09	1.00	0.101	0.119	0.2110	0.83	1.00
24	rs7541019	g	230117808	532	-	G	0.245	0.263	0.2270	0.91	1.00	0.238	0.280	0.0714	0.80	0.99	0.250	0.251	0.9796	1.00	1.00
24	rs11122373	i	230120350	2542	-	T	0.098	0.098	0.9787	1.00	1.00	0.106	0.084	0.1650	1.28	1.00	0.091	0.108	0.2199	0.83	1.00
24	rs11122374	i	230120701	351	-	G	0.098	0.098	0.9787	1.00	1.00	0.106	0.084	0.1650	1.28	1.00	0.091	0.108	0.2199	0.83	1.00
24	rs6687338	i	230121194	493	-	G	0.098	0.098	0.9787	1.00	1.00	0.106	0.084	0.1650	1.28	1.00	0.091	0.108	0.2199	0.83	1.00
24	rs4658963	g	230121321	127	-	G	0.246	0.264	0.2450	0.91	1.00	0.238	0.280	0.0714	0.80	0.99	0.252	0.252	0.9701	1.00	1.00
24	rs2038636	g	230121872	551	-	C	0.380	0.403	0.1737	0.91	1.00	0.374	0.409	0.1787	0.86	1.00	0.384	0.399	0.5318	0.94	1.00
	rs821721	i	230122853	981	-	T	0.384	0.362	0.1918	1.10	1.00	0.369	0.337	0.1947	1.15	1.00	0.397	0.382	0.5111	1.07	1.00
25	rs1028665	i	230122924	71	-	G	0.148	0.139	0.4729	1.07	1.00	0.158	0.125	0.0681	1.32	1.00	0.139	0.149	0.5190	0.92	1.00
25	rs821717	i	230126428	3504	-	G	0.232	0.220	0.3968	1.07	1.00	0.206	0.205	0.9852	1.00	1.00	0.253	0.231	0.2489	1.13	1.00
25	rs6695394	g	230127885	1457	-	T	0.048	0.049	0.8886	0.98	1.00	0.053	0.054	0.9467	0.98	1.00	0.043	0.045	0.8599	0.96	1.00
25	rs7546310	i	230128443	558	-	A	0.452	0.432	0.2382	1.09	1.00	0.439	0.409	0.2480	1.13	1.00	0.463	0.449	0.5474	1.06	1.00
25	rs6687236	g	230129853	1410	-	T	0.238	0.226	0.4428	1.07	1.00	0.209	0.212	0.8807	0.98	1.00	0.262	0.237	0.2258	1.14	1.00
25	rs12125581	i	230132644	2791	-	A	0.232	0.220	0.3968	1.07	1.00	0.206	0.205	0.9852	1.00	1.00	0.253	0.231	0.2489	1.13	1.00
25	rs11122376	i	230132717	73	-	G	0.232	0.220	0.3968	1.07	1.00	0.206	0.205	0.9852	1.00	1.00	0.253	0.231	0.2489	1.13	1.00
25	rs11584798	i	230132900	183	-	T	0.232	0.220	0.3968	1.07	1.00	0.206	0.205	0.9852	1.00	1.00	0.253	0.231	0.2489	1.13	1.00
25	rs2356710	i	230133586	686	-	A	0.232	0.220	0.3968	1.07	1.00	0.206	0.205	0.9852	1.00	1.00	0.253	0.231	0.2489	1.13	1.00
25	rs821577	g	230133680	94	-	G	0.458	0.439	0.2865	1.08	1.00	0.441	0.417	0.3527	1.10	1.00	0.471	0.456	0.5046	1.07	1.00
25	rs12029109	i	230135065	1385	-	G	0.046	0.048	0.8115	0.96	1.00	0.051	0.053	0.8908	0.97	1.00	0.042	0.044	0.8167	0.95	1.00
25	rs1341555	i	230135680	615	-	T	0.456	0.436	0.2459	1.09	1.00	0.442	0.413	0.2696	1.12	1.00	0.468	0.454	0.5325	1.06	1.00
25	rs9431726	i	230136276	596	-	T	0.219	0.212	0.6035	1.05	1.00	0.232	0.204	0.1933	1.18	1.00	0.209	0.218	0.6365	0.95	1.00
25	rs4658891	i	230138779	2503	-	A	0.144	0.138	0.5750	1.06	1.00	0.154	0.124	0.0921	1.29	1.00	0.136	0.148	0.4688	0.91	1.00
25	rs1341556	i	230138791	12	-	A	0.017	0.018	0.8790	0.96	1.00	0.013	0.018	0.4194	0.70	1.00	0.020	0.017	0.6398	1.17	1.00
25	rs701158	i	230139751	960	-	G	0.456	0.436	0.2459	1.09	1.00	0.442	0.413	0.2696	1.12	1.00	0.468	0.454	0.5325	1.06	1.00
25	rs872624	i	230141523	1772	-	A	0.141	0.135	0.6170	1.05	1.00	0.151	0.124	0.1241	1.26	1.00	0.133	0.144	0.4910	0.91	1.00
25	rs872625	i	230141596	73	-	G	0.217	0.209	0.5810	1.05	1.00	0.228	0.202	0.2394	1.16	1.00	0.208	0.214	0.7505	0.96	1.00
25	rs9431730	i	230143660	2064	-	A	0.046	0.048	0.8115	0.96	1.00	0.051	0.053	0.8908	0.97	1.00	0.042	0.044	0.8167	0.95	1.00
25	rs821581	g	230143695	35	-	C	0.226	0.220	0.6897	1.03	1.00	0.235	0.213	0.3176	1.14	1.00	0.218	0.225	0.7170	0.96	1.00
25	rs2002626	i	230143834	139	-	G	0.138	0.133	0.6610	1.05	1.00	0.149	0.120	0.1037	1.29	1.00	0.130	0.143	0.3997	0.89	1.00
25	rs4658966	g	230145237	1403	-	C	0.152	0.149	0.8230	1.02	1.00	0.164	0.137	0.1563	1.23	1.00	0.142	0.158	0.3390	0.88	1.00
25	rs12132281	i	230145463	226	-	C	0.152	0.148	0.7628	1.03	1.00	0.163	0.136	0.1537	1.23	1.00	0.143	0.157	0.3927	0.89	1.00
25	rs12126719	i	230145642	179	-	G	0.152	0.148	0.7628	1.03	1.00	0.163	0.136	0.1537	1.23	1.00	0.143	0.157	0.3927	0.89	1.00
25	rs12127507	i	230145671	29	-	C	0.152	0.148	0.7628	1.03	1.00	0.163	0.136	0.1537	1.23	1.00	0.143	0.157	0.3927	0.89	1.00

25	rs9431732	i	230145749	78	-	G	0.046	0.048	0.8115	0.96	1.00	0.051	0.053	0.8908	0.97	1.00	0.042	0.044	0.8167	0.95	1.00
25	rs1094401	i	230150208	4459	-	C	0.221	0.220	0.9408	1.01	1.00	0.232	0.212	0.3587	1.12	1.00	0.211	0.225	0.4684	0.92	1.00
25	rs16855691	i	230152108	1900	-	A	0.012	0.013	0.6829	0.88	1.00	0.011	0.015	0.5192	0.74	1.00	0.013	0.012	0.9761	1.01	1.00
25	rs16855696	i	230152492	384	-	G	0.152	0.148	0.7628	1.03	1.00	0.163	0.136	0.1537	1.23	1.00	0.143	0.157	0.3927	0.89	1.00
25	rs12137417	i	230152776	284	-	A	0.152	0.148	0.7628	1.03	1.00	0.163	0.136	0.1537	1.23	1.00	0.143	0.157	0.3927	0.89	1.00
	rs9432061	i	230153317	541	-	G	0.046	0.047	0.8061	0.96	1.00	0.050	0.053	0.7964	0.94	1.00	0.042	0.043	0.9014	0.97	1.00
	rs1417866	i	230153536	219	-	G	0.011	0.010	0.8482	1.07	1.00	0.011	0.014	0.6690	0.82	1.00	na	na	na	na	na
	rs821585	i	230154072	536	-	T	0.012	0.015	0.4062	0.78	1.00	0.008	0.015	0.2403	0.55	1.00	0.015	0.015	0.9076	0.96	1.00
	rs12136198	i	230154938	866	-	G	na	na	na	na	na	0.011	0.014	0.6690	0.82	1.00	na	na	na	na	na
	rs9431735	i	230155839	901	-	G	0.041	0.046	0.4761	0.88	1.00	0.044	0.049	0.6862	0.90	1.00	0.038	0.043	0.5336	0.86	1.00
	rs9431736	i	230156363	524	-	G	0.082	0.090	0.4293	0.91	1.00	0.096	0.075	0.1492	1.31	1.00	0.070	0.101	0.0202	0.68	0.89
	rs7548491	i	230156875	512	-	C	0.294	0.289	0.7748	1.02	1.00	0.303	0.260	0.0663	1.24	1.00	0.286	0.312	0.2341	0.89	1.00
	rs12084523	i	230156938	63	-	A	0.013	0.016	0.4368	0.80	1.00	0.017	0.022	0.4810	0.76	1.00	0.010	0.012	0.6672	0.83	1.00
	rs2772122	i	230157116	178	-	C	0.205	0.210	0.7442	0.97	1.00	0.186	0.202	0.4310	0.90	1.00	0.221	0.215	0.7772	1.03	1.00
	rs821589	i	230157555	439	-	T	0.044	0.053	0.2357	0.83	1.00	0.047	0.060	0.2872	0.78	1.00	0.042	0.048	0.5147	0.86	1.00
	rs701160	i	230159104	1549	-	T	0.150	0.142	0.5293	1.06	1.00	0.151	0.135	0.3575	1.15	1.00	0.149	0.148	0.9655	1.01	1.00
	rs11122381	g	230160730	1626	-	G	0.217	0.218	0.9644	1.00	1.00	0.212	0.219	0.7346	0.96	1.00	0.222	0.217	0.8032	1.03	1.00
	rs12118242	i	230160776	46	-	T	0.023	0.020	0.5232	1.17	1.00	0.031	0.014	0.0272	2.29	0.95	0.017	0.025	0.2524	0.69	1.00
26	rs821592	g	230160882	106	-	T	0.284	0.284	0.9931	1.00	1.00	0.277	0.280	0.9169	0.99	1.00	0.289	0.287	0.9023	1.01	1.00
26	rs2794273	i	230161352	470	-	A	0.243	0.241	0.8671	1.01	1.00	0.236	0.255	0.3919	0.90	1.00	0.249	0.229	0.3270	1.11	1.00
27	rs6670775	i	230163324	1972	-	C	0.191	0.189	0.8417	1.02	1.00	0.182	0.200	0.3880	0.89	1.00	0.199	0.180	0.3015	1.13	1.00
27	rs12754734	g	230165470	2146	-	T	0.189	0.186	0.8361	1.02	1.00	0.182	0.195	0.5221	0.92	1.00	0.194	0.179	0.3997	1.11	1.00
27	rs4266866	i	230165482	12	-	G	0.191	0.188	0.8082	1.02	1.00	0.182	0.198	0.4247	0.90	1.00	0.199	0.180	0.3015	1.13	1.00
27	rs12566923	i	230165638	156	-	G	0.041	0.043	0.6989	0.94	1.00	0.036	0.039	0.7419	0.91	1.00	0.044	0.046	0.8381	0.96	1.00
27	rs4658894	g	230166517	879	-	C	0.041	0.043	0.7017	0.94	1.00	0.036	0.040	0.7111	0.90	1.00	0.044	0.046	0.8715	0.96	1.00
27	rs821596	i	230168221	1704	-	T	0.244	0.245	0.9498	0.99	1.00	0.243	0.253	0.6695	0.95	1.00	0.246	0.240	0.7734	1.03	1.00
27	rs821597	i	230168887	666	-	A	0.296	0.291	0.7695	1.02	1.00	0.290	0.296	0.8041	0.97	1.00	0.300	0.287	0.5406	1.07	1.00
27	rs821598	i	230169970	1083	-	T	0.248	0.245	0.8514	1.02	1.00	0.247	0.253	0.8087	0.97	1.00	0.249	0.240	0.6470	1.05	1.00
27	rs701161	i	230170737	767	-	G	0.297	0.293	0.7943	1.02	1.00	0.293	0.299	0.8066	0.97	1.00	0.300	0.288	0.5734	1.06	1.00
27	rs12060283	i	230173702	2965	-	C	0.038	0.042	0.4943	0.89	1.00	0.032	0.038	0.5268	0.83	1.00	0.042	0.045	0.7349	0.93	1.00
27	rs4658970	i	230174380	678	-	T	0.038	0.042	0.4943	0.89	1.00	0.032	0.038	0.5268	0.83	1.00	0.042	0.045	0.7349	0.93	1.00
27	rs4658971	g	230174437	57	-	T	0.039	0.042	0.6267	0.92	1.00	0.032	0.040	0.4199	0.80	1.00	0.044	0.043	0.9496	1.02	1.00
27	rs12126582	i	230174446	9	-	A	0.012	0.013	0.7939	0.92	1.00	0.013	0.012	0.9626	1.02	1.00	0.011	0.013	0.6964	0.85	1.00
27	rs16855854	i	230175717	1271	-	T	0.041	0.043	0.6989	0.94	1.00	0.036	0.039	0.7419	0.91	1.00	0.044	0.046	0.8381	0.96	1.00
27	rs12066297	i	230175846	129	-	G	0.041	0.043	0.6989	0.94	1.00	0.036	0.039	0.7419	0.91	1.00	0.044	0.046	0.8381	0.96	1.00
27	rs821600	i	230183649	7803	-	A	0.299	0.297	0.9025	1.01	1.00	0.296	0.304	0.7230	0.96	1.00	0.302	0.292	0.6350	1.05	1.00
27	rs821663	i	230187845	4196	-	T	0.292	0.295	0.8685	0.99	1.00	0.292	0.300	0.7191	0.96	1.00	0.292	0.290	0.9275	1.01	1.00
27	rs821664	i	230188545	700	-	T	0.289	0.295	0.7461	0.98	1.00	0.289	0.302	0.5941	0.94	1.00	0.290	0.289	0.9744	1.00	1.00
27	rs701162	i	230191674	3129	-	C	0.291	0.295	0.8375	0.98	1.00	0.292	0.300	0.7191	0.96	1.00	0.291	0.290	0.9703	1.00	1.00
27	rs701163	i	230191732	58	-	G	0.251	0.251	0.9979	1.00	1.00	0.256	0.262	0.7714	0.97	1.00	0.247	0.242	0.8094	1.03	1.00

27	rs12564399	i	230192495	763	-	A	0.038	0.042	0.4943	0.89	1.00	0.033	0.038	0.6282	0.87	1.00	0.041	0.045	0.6450	0.90	1.00
27	rs821651	i	230193226	731	-	A	0.250	0.250	1.0000	1.00	1.00	0.254	0.262	0.7253	0.96	1.00	0.247	0.241	0.7696	1.03	1.00
27	rs821652	i	230193279	53	-	A	0.250	0.250	1.0000	1.00	1.00	0.254	0.262	0.7253	0.96	1.00	0.247	0.241	0.7696	1.03	1.00
27	rs16855913	i	230193351	72	-	A	0.038	0.042	0.4943	0.89	1.00	0.033	0.038	0.6282	0.87	1.00	0.041	0.045	0.6450	0.90	1.00
27	rs821653	i	230193510	159	-	G	0.251	0.249	0.9360	1.01	1.00	0.256	0.260	0.8630	0.98	1.00	0.247	0.242	0.8094	1.03	1.00
27	rs16855921	i	230193718	208	-	A	0.041	0.047	0.3414	0.85	1.00	0.035	0.043	0.3891	0.79	1.00	0.045	0.050	0.6184	0.90	1.00
27	rs821654	i	230193977	259	-	G	0.289	0.293	0.8314	0.98	1.00	0.289	0.298	0.7165	0.96	1.00	0.290	0.289	0.9744	1.00	1.00
27	rs4658972	i	230194387	410	-	G	0.041	0.043	0.6989	0.94	1.00	0.036	0.039	0.7419	0.91	1.00	0.044	0.046	0.8381	0.96	1.00
27	rs821655	i	230194884	497	-	T	0.289	0.293	0.8314	0.98	1.00	0.289	0.298	0.7165	0.96	1.00	0.290	0.289	0.9744	1.00	1.00
27	rs16855938	i	230195127	243	-	C	0.038	0.042	0.4943	0.89	1.00	0.033	0.038	0.6282	0.87	1.00	0.041	0.045	0.6450	0.90	1.00
27	rs12406771	i	230195957	830	-	T	0.038	0.042	0.4943	0.89	1.00	0.033	0.038	0.6282	0.87	1.00	0.041	0.045	0.6450	0.90	1.00
27	rs1417863	i	230196553	596	-	A	0.018	0.026	0.0835	0.66	1.00	0.017	0.024	0.2955	0.68	1.00	0.018	0.028	0.1709	0.65	1.00
27	rs843979	i	230197231	678	-	G	0.291	0.295	0.8068	0.98	1.00	0.290	0.302	0.6352	0.95	1.00	0.291	0.289	0.9315	1.01	1.00
27	rs821660	i	230201643	4412	-	T	0.252	0.249	0.8398	1.02	1.00	0.256	0.261	0.8168	0.97	1.00	0.249	0.240	0.6470	1.05	1.00
27	rs821661	i	230201820	177	-	A	0.251	0.248	0.8437	1.02	1.00	0.254	0.260	0.8155	0.97	1.00	0.248	0.239	0.6504	1.05	1.00
27	rs7537548	i	230202924	1104	-	G	0.259	0.253	0.7013	1.03	1.00	0.263	0.266	0.8693	0.98	1.00	0.256	0.243	0.5219	1.07	1.00
27	rs7525983	i	230202938	14	-	G	0.259	0.253	0.7013	1.03	1.00	0.263	0.266	0.8693	0.98	1.00	0.256	0.243	0.5219	1.07	1.00
27	rs3121910	i	230203816	878	-	G	0.249	0.244	0.7273	1.03	1.00	0.251	0.255	0.8592	0.98	1.00	0.248	0.236	0.5424	1.07	1.00
27	rs2772120	i	230203899	83	-	C	0.249	0.245	0.7569	1.03	1.00	0.251	0.257	0.8128	0.97	1.00	0.248	0.236	0.5424	1.07	1.00
27	rs1754607	i	230203999	100	-	A	0.296	0.294	0.9140	1.01	1.00	0.297	0.304	0.7669	0.97	1.00	0.294	0.286	0.6939	1.04	1.00
27	rs1754606	i	230204217	218	-	C	0.249	0.245	0.7569	1.03	1.00	0.251	0.257	0.8128	0.97	1.00	0.248	0.236	0.5424	1.07	1.00
27	rs9432088	i	230204297	80	-	C	0.249	0.245	0.7569	1.03	1.00	0.251	0.257	0.8128	0.97	1.00	0.248	0.236	0.5424	1.07	1.00
27	rs9432089	i	230205022	725	-	G	0.259	0.251	0.5901	1.04	1.00	0.263	0.266	0.8693	0.98	1.00	0.256	0.239	0.3968	1.10	1.00
27	rs9432090	i	230205056	34	-	A	0.249	0.244	0.7273	1.03	1.00	0.251	0.257	0.8128	0.97	1.00	0.248	0.235	0.5084	1.08	1.00
27	rs1754604	i	230205230	174	-	C	0.249	0.244	0.6981	1.03	1.00	0.251	0.258	0.7672	0.97	1.00	0.248	0.233	0.4437	1.09	1.00
27	rs1754603	i	230205245	15	-	T	0.249	0.244	0.6981	1.03	1.00	0.251	0.258	0.7672	0.97	1.00	0.248	0.233	0.4437	1.09	1.00
27	rs1772699	i	230205599	354	-	G	0.249	0.244	0.6981	1.03	1.00	0.251	0.258	0.7672	0.97	1.00	0.248	0.233	0.4437	1.09	1.00
27	rs1772696	i	230205818	219	-	G	0.249	0.244	0.6981	1.03	1.00	0.251	0.258	0.7672	0.97	1.00	0.248	0.233	0.4437	1.09	1.00
27	rs2806474	i	230206902	1084	-	G	0.249	0.244	0.6981	1.03	1.00	0.251	0.258	0.7672	0.97	1.00	0.248	0.233	0.4437	1.09	1.00
27	rs2772114	i	230206966	64	-	G	0.259	0.249	0.5109	1.05	1.00	0.263	0.265	0.9157	0.99	1.00	0.257	0.238	0.3394	1.11	1.00
27	rs2806475	i	230207038	72	-	G	0.259	0.249	0.4862	1.06	1.00	0.263	0.264	0.9624	0.99	1.00	0.257	0.238	0.3394	1.11	1.00
27	rs821602	i	230208027	989	-	C	0.255	0.251	0.7703	1.02	1.00	0.257	0.265	0.7282	0.96	1.00	0.253	0.240	0.4944	1.08	1.00
27	rs821605	i	230208559	532	-	G	0.249	0.243	0.6693	1.04	1.00	0.251	0.257	0.8128	0.97	1.00	0.248	0.233	0.4437	1.09	1.00
27	rs860272	i	230209132	573	-	T	0.249	0.243	0.6693	1.04	1.00	0.251	0.257	0.8128	0.97	1.00	0.248	0.233	0.4437	1.09	1.00
27	rs821615	i	230210569	1437	-	C	0.249	0.243	0.6693	1.04	1.00	0.251	0.257	0.8128	0.97	1.00	0.248	0.233	0.4437	1.09	1.00
27	rs821616	i	230211221	652	S/C	T	0.249	0.243	0.6693	1.04	1.00	0.251	0.257	0.8128	0.97	1.00	0.248	0.233	0.4437	1.09	1.00
27	rs821620	i	230212308	1087	-	A	0.253	0.246	0.6610	1.04	1.00	0.254	0.260	0.8155	0.97	1.00	0.251	0.236	0.4362	1.09	1.00
27	rs821621	i	230212687	379	-	A	0.249	0.243	0.6693	1.04	1.00	0.251	0.257	0.8128	0.97	1.00	0.248	0.233	0.4437	1.09	1.00
27	rs821622	i	230213028	341	-	A	0.249	0.243	0.6693	1.04	1.00	0.251	0.257	0.8128	0.97	1.00	0.248	0.233	0.4437	1.09	1.00
27	rs821623	i	230213204	176	-	G	0.249	0.243	0.6693	1.04	1.00	0.251	0.257	0.8128	0.97	1.00	0.248	0.233	0.4437	1.09	1.00

27	rs866596	i	230213553	349	-	G	0.250	0.242	0.6115	1.04	1.00	0.253	0.255	0.9073	0.99	1.00	0.248	0.233	0.4437	1.09	1.00
27	rs821624	i	230213717	164	-	C	0.301	0.293	0.6461	1.04	1.00	0.303	0.303	0.9930	1.00	1.00	0.299	0.286	0.5435	1.06	1.00
27	rs821627	i	230213791	74	-	T	0.301	0.293	0.6461	1.04	1.00	0.303	0.303	0.9930	1.00	1.00	0.299	0.286	0.5435	1.06	1.00
27	rs16856152	i	230213833	42	-	T	0.039	0.042	0.7491	0.95	1.00	0.039	0.037	0.8254	1.06	1.00	0.040	0.045	0.5590	0.87	1.00
27	rs821628	i	230213874	41	-	T	0.249	0.242	0.6710	1.04	1.00	0.251	0.255	0.8592	0.98	1.00	0.247	0.233	0.4781	1.08	1.00
27	rs821629	i	230214015	141	-	T	0.249	0.242	0.6710	1.04	1.00	0.251	0.255	0.8592	0.98	1.00	0.247	0.233	0.4781	1.08	1.00
27	rs849349	i	230214027	12	-	A	0.301	0.293	0.6198	1.04	1.00	0.303	0.303	0.9930	1.00	1.00	0.299	0.285	0.5115	1.07	1.00
27	rs866055	i	230214191	164	-	G	0.259	0.246	0.3951	1.07	1.00	0.263	0.258	0.8501	1.02	1.00	0.256	0.237	0.3414	1.11	1.00
27	rs864752	i	230214223	32	-	A	0.300	0.290	0.5451	1.05	1.00	0.303	0.299	0.8723	1.02	1.00	0.298	0.284	0.5143	1.07	1.00
27	rs2149736	i	230214510	287	-	T	0.039	0.042	0.6196	0.92	1.00	0.039	0.037	0.8254	1.06	1.00	0.039	0.046	0.4153	0.83	1.00
27	rs821631	i	230214758	248	-	C	0.372	0.359	0.4386	1.06	1.00	0.385	0.333	0.0392	1.25	0.99	0.361	0.379	0.4430	0.93	1.00
28	rs11576588	g	230214819	61	-	T	0.213	0.210	0.8077	1.02	1.00	0.211	0.220	0.6532	0.94	1.00	0.215	0.202	0.4743	1.09	1.00
28	rs821633	g	230215556	737	-	G	0.318	0.339	0.2195	0.91	1.00	0.325	0.312	0.5914	1.06	1.00	0.313	0.359	0.0388	0.81	0.90
28	rs821634	i	230216143	587	-	A	0.323	0.306	0.3130	1.08	1.00	0.331	0.289	0.0895	1.21	1.00	0.316	0.319	0.8891	0.99	1.00
28	rs821635	i	230216164	21	-	T	0.322	0.306	0.3139	1.08	1.00	0.329	0.289	0.1007	1.21	1.00	0.316	0.318	0.9267	0.99	1.00
28	rs821637	i	230216334	170	-	C	0.329	0.314	0.3579	1.07	1.00	0.339	0.292	0.0548	1.24	1.00	0.321	0.330	0.6534	0.96	1.00
28	rs821638	i	230216431	97	-	G	0.341	0.329	0.4571	1.06	1.00	0.353	0.317	0.1432	1.18	1.00	0.332	0.339	0.7618	0.97	1.00
28	rs821639	i	230216466	35	-	G	0.343	0.334	0.5679	1.04	1.00	0.349	0.322	0.2824	1.13	1.00	0.339	0.343	0.8576	0.98	1.00
28	rs821640	i	230216518	52	-	G	0.343	0.331	0.4752	1.05	1.00	0.353	0.319	0.1762	1.16	1.00	0.335	0.341	0.8094	0.98	1.00
28	rs821641	i	230216601	83	-	T	0.343	0.331	0.4752	1.05	1.00	0.353	0.319	0.1762	1.16	1.00	0.335	0.341	0.8094	0.98	1.00
28	rs821642	i	230216752	151	-	T	0.343	0.332	0.4976	1.05	1.00	0.353	0.319	0.1762	1.16	1.00	0.335	0.342	0.7735	0.97	1.00
28	rs821643	i	230216813	61	-	G	0.344	0.332	0.4739	1.05	1.00	0.353	0.319	0.1762	1.16	1.00	0.336	0.342	0.8134	0.98	1.00
28	rs821644	i	230216822	9	-	G	0.344	0.333	0.5191	1.05	1.00	0.353	0.321	0.1946	1.16	1.00	0.336	0.343	0.7774	0.97	1.00
28	rs821645	i	230217114	292	-	A	0.344	0.333	0.5191	1.05	1.00	0.353	0.321	0.1946	1.16	1.00	0.336	0.343	0.7774	0.97	1.00
28	rs821647	i	230218531	1417	-	G	0.339	0.327	0.4843	1.05	1.00	0.342	0.315	0.2826	1.13	1.00	0.336	0.336	0.9980	1.00	1.00
28	rs821648	i	230219654	1123	-	C	0.345	0.336	0.5879	1.04	1.00	0.354	0.322	0.1946	1.16	1.00	0.338	0.347	0.6766	0.96	1.00
28	rs16856189	g	230220006	352	-	A	0.038	0.043	0.5167	0.89	1.00	0.038	0.038	0.9832	1.01	1.00	0.038	0.047	0.3927	0.82	1.00
28	rs1341553	g	230220204	198	-	G	0.420	0.438	0.2928	0.93	1.00	0.427	0.418	0.7332	1.04	1.00	0.414	0.453	0.0924	0.85	0.99
28	rs1475514	i	230220416	212	-	G	0.421	0.439	0.3159	0.93	1.00	0.426	0.420	0.8003	1.03	1.00	0.417	0.453	0.1225	0.87	1.00
	rs928099	i	230221459	1043	-	T	0.234	0.230	0.7707	1.02	1.00	0.253	0.236	0.4676	1.09	1.00	0.219	0.225	0.7569	0.97	1.00
	rs16856202	i	230221774	315	-	G	0.015	0.014	0.8197	1.07	1.00	0.013	0.015	0.6885	0.83	1.00	0.017	0.013	0.5179	1.28	1.00
	rs2806458	i	230222878	1104	-	A	0.447	0.442	0.7537	1.02	1.00	0.476	0.421	0.0342	1.25	0.98	0.423	0.457	0.1403	0.87	1.00
	rs12062781	i	230223253	375	-	G	0.015	0.014	0.8197	1.07	1.00	0.013	0.015	0.6885	0.83	1.00	0.017	0.013	0.5179	1.28	1.00
	rs7533169	i	230223389	136	-	A	0.168	0.173	0.6899	0.96	1.00	0.132	0.185	0.0058	0.67	0.54	0.197	0.164	0.0644	1.25	1.00
	rs11588595	i	230224139	750	-	C	0.044	0.055	0.1593	0.80	1.00	0.042	0.049	0.5063	0.85	1.00	0.047	0.060	0.2114	0.77	1.00
	rs3524	i	230225302	1163	-	G	0.467	0.464	0.8548	1.01	1.00	0.501	0.448	0.0428	1.24	0.99	0.439	0.475	0.1137	0.86	1.00
	rs16856230	i	230226159	857	-	C	0.015	0.013	0.7095	1.12	1.00	0.013	0.014	0.8550	0.92	1.00	0.017	0.013	0.5179	1.28	1.00
	rs16856236	i	230226681	522	-	G	0.015	0.013	0.7095	1.12	1.00	0.013	0.014	0.8550	0.92	1.00	0.017	0.013	0.5179	1.28	1.00
	rs12088230	i	230228306	1625	-	C	0.347	0.322	0.1298	1.12	1.00	0.376	0.307	0.0053	1.36	0.52	0.323	0.333	0.6274	0.95	1.00
	rs16856254	i	230228487	181	-	T	0.013	0.012	0.8313	1.07	1.00	0.018	0.008	0.0960	2.24	1.00	0.009	0.015	0.2185	0.59	1.00

29	rs1160491	i	230228516	29	-	A	0.368	0.381	0.4177	0.94	1.00	0.390	0.376	0.5849	1.06	1.00	0.349	0.385	0.1095	0.86	1.00
29	rs2807578	i	230230726	2210	-	G	0.419	0.416	0.8300	1.02	1.00	0.392	0.443	0.0473	0.81	0.99	0.442	0.395	0.0406	1.21	0.99
	rs2806465	i	230232917	2191	-	G	0.423	0.427	0.7757	0.98	1.00	0.439	0.413	0.3187	1.11	1.00	0.409	0.438	0.2045	0.89	1.00
30	rs9701655	i	230232941	24	-	G	0.209	0.213	0.7585	0.97	1.00	0.185	0.215	0.1530	0.83	1.00	0.228	0.212	0.3925	1.10	1.00
30	rs9699636	i	230232955	14	-	A	0.208	0.213	0.7251	0.97	1.00	0.183	0.215	0.1344	0.82	1.00	0.228	0.212	0.3925	1.10	1.00
30	rs9663054	i	230234827	1872	-	G	0.049	0.049	0.9835	1.00	1.00	0.058	0.035	0.0375	1.69	0.98	0.041	0.059	0.0810	0.68	1.00
30	rs9726024	g	230235123	296	-	A	0.370	0.350	0.2498	1.09	1.00	0.371	0.364	0.7868	1.03	1.00	0.368	0.340	0.2026	1.13	1.00
31	rs9729194	i	230235490	367	-	T	0.223	0.226	0.8097	0.98	1.00	0.204	0.222	0.4201	0.90	1.00	0.238	0.229	0.6815	1.05	1.00
31	rs16856305	i	230238152	2662	-	G	0.038	0.026	0.0675	1.44	1.00	0.039	0.024	0.1155	1.61	1.00	0.036	0.028	0.2934	1.32	1.00
31	rs16856308	g	230238240	88	-	T	0.150	0.154	0.7198	0.97	1.00	0.137	0.183	0.0204	0.71	0.74	0.160	0.134	0.1086	1.24	1.00
31	rs17773715	i	230238997	757	-	A	0.179	0.158	0.1019	1.16	1.00	0.188	0.154	0.0847	1.27	1.00	0.173	0.162	0.5184	1.08	1.00
31	rs3737597	i	230239461	464	-	A	0.038	0.026	0.0675	1.44	1.00	0.039	0.024	0.1155	1.61	1.00	0.036	0.028	0.2934	1.32	1.00
31	rs11578905	i	230240144	683	-	T	0.259	0.262	0.8164	0.98	1.00	0.244	0.249	0.8526	0.98	1.00	0.271	0.273	0.9161	0.99	1.00
31	rs9729179	g	230240796	652	-	C	0.297	0.290	0.6640	1.03	1.00	0.286	0.276	0.6705	1.05	1.00	0.307	0.301	0.7995	1.03	1.00
31	rs1411771	i	230241398	602	-	C	0.298	0.290	0.5999	1.04	1.00	0.286	0.276	0.6621	1.05	1.00	0.308	0.300	0.7245	1.04	1.00
31	rs11122396	i	230241891	493	-	G	0.038	0.026	0.0675	1.44	1.00	0.039	0.024	0.1155	1.61	1.00	0.036	0.028	0.2934	1.32	1.00
31	rs980989	g	230242818	927	-	T	0.241	0.246	0.7693	0.98	1.00	0.223	0.236	0.5649	0.93	1.00	0.257	0.254	0.8708	1.02	1.00
31	rs9308481	i	230242929	111	-	A	0.257	0.257	0.9921	1.00	1.00	0.242	0.242	0.9936	1.00	1.00	0.269	0.269	0.9691	1.00	1.00
31	rs11803088	i	230243392	463	-	T	0.121	0.108	0.2434	1.14	1.00	0.124	0.107	0.3312	1.17	1.00	0.118	0.108	0.4903	1.11	1.00
31	rs16856322	i	230243610	218	-	T	0.298	0.288	0.5508	1.05	1.00	0.285	0.273	0.6209	1.06	1.00	0.308	0.299	0.6887	1.04	1.00
31	rs1411775	i	230243925	315	-	A	0.114	0.115	0.9727	1.00	1.00	0.107	0.139	0.0660	0.74	1.00	0.121	0.097	0.1001	1.28	1.00
31	rs1411776	g	230244110	185	-	A	0.153	0.156	0.8467	0.98	1.00	0.143	0.186	0.0289	0.73	0.84	0.162	0.134	0.0857	1.26	0.99
31	rs16856330	i	230244285	175	-	G	0.038	0.026	0.0675	1.44	1.00	0.039	0.024	0.1155	1.61	1.00	0.036	0.028	0.2934	1.32	1.00
31	rs12118641	i	230244593	308	-	T	0.244	0.244	0.9789	1.00	1.00	0.224	0.232	0.6915	0.95	1.00	0.260	0.253	0.7253	1.04	1.00
31	rs1331056	i	230245262	669	-	C	0.370	0.395	0.1455	0.90	1.00	0.383	0.382	0.9518	1.01	1.00	0.359	0.404	0.0455	0.83	0.99
	rs16856336	i	230245534	272	-	G	0.038	0.026	0.0675	1.44	1.00	0.039	0.024	0.1155	1.61	1.00	0.036	0.028	0.2934	1.32	1.00
32	rs9661672	i	230245782	248	-	G	0.288	0.291	0.8563	0.99	1.00	0.271	0.276	0.8311	0.98	1.00	0.302	0.303	0.9927	1.00	1.00
32	rs16856339	i	230245829	47	-	C	0.038	0.026	0.0675	1.44	1.00	0.039	0.024	0.1155	1.61	1.00	0.036	0.028	0.2934	1.32	1.00
32	rs11122398	i	230246081	252	-	C	0.038	0.026	0.0532	1.47	1.00	0.039	0.024	0.1155	1.61	1.00	0.036	0.027	0.2355	1.37	1.00
32	rs1360399	i	230246671	590	-	T	0.288	0.292	0.8273	0.98	1.00	0.271	0.277	0.7862	0.97	1.00	0.302	0.303	0.9927	1.00	1.00
32	rs16856342	i	230246766	95	-	C	0.038	0.026	0.0532	1.47	1.00	0.039	0.024	0.1155	1.61	1.00	0.036	0.027	0.2355	1.37	1.00
32	rs16856346	i	230246810	44	-	C	0.038	0.026	0.0532	1.47	1.00	0.039	0.024	0.1155	1.61	1.00	0.036	0.027	0.2355	1.37	1.00
32	rs9727641	i	230246966	156	-	T	0.289	0.290	0.9168	0.99	1.00	0.272	0.276	0.8779	0.98	1.00	0.302	0.301	0.9689	1.00	1.00
32	rs16856349	i	230247172	206	-	T	0.037	0.026	0.0659	1.45	1.00	0.039	0.024	0.1155	1.61	1.00	0.035	0.027	0.2914	1.33	1.00
32	rs16856351	i	230247195	23	-	C	0.037	0.026	0.0659	1.45	1.00	0.039	0.024	0.1155	1.61	1.00	0.035	0.027	0.2914	1.33	1.00
32	rs11802446	i	230247237	42	-	T	0.329	0.317	0.4827	1.05	1.00	0.315	0.304	0.6520	1.05	1.00	0.340	0.327	0.5653	1.06	1.00
	rs16856354	i	230247628	391	-	T	0.036	0.026	0.0812	1.42	1.00	0.039	0.024	0.1155	1.61	1.00	0.034	0.027	0.3568	1.28	1.00
	rs16856355	i	230247689	61	-	G	0.036	0.026	0.0812	1.42	1.00	0.039	0.024	0.1155	1.61	1.00	0.034	0.027	0.3568	1.28	1.00
	rs16856357	i	230247865	176	-	G	0.036	0.026	0.0812	1.42	1.00	0.039	0.024	0.1155	1.61	1.00	0.034	0.027	0.3568	1.28	1.00
	rs16856363	i	230248334	469	-	A	0.029	0.018	0.0244	1.69	0.93	0.031	0.019	0.1565	1.63	1.00	0.028	0.016	0.0810	1.75	1.00

rs16856365	i	230248348	14	-	A	0.029	0.018	0.0244	1.69	0.93	0.031	0.019	0.1565	1.63	1.00	0.028	0.016	0.0810	1.75	1.00
rs9308482	i	230248438	90	-	G	0.091	0.074	0.0887	1.24	1.00	0.100	0.068	0.0273	1.52	0.95	0.083	0.079	0.7685	1.05	1.00

¹ Haplotype-blocks are defined according to Gabriel et al. (2002). ² i = imputed SNP markers, g = genotyped SNP markers. ³ AAS = Amino-acid-substitution. ⁴ Minor allele in controls (MA). ⁵ MA frequency (MAF) in patients. ⁶ MAF in controls. ⁷ p-values single-marker association analysis. ⁸ p-values after a correction procedure (10,000 permutations). ⁹ SNPs showing Hardy-Weinberg-Disequilibrium (HWD) in controls (see also Supplementary Table 7).

Supplementary Table 3

DISC-markers with disease association in the present study and in independent studies. Only markers that consistently showed association with the same allele are listed. For all five markers, all published schizophrenia associations are summarized.

SNP	Block	Hennah et al. (18)												Hodgkinson et al. (7)	Sullivan et al. (19)	Hashimoto et al. (12)	Wood et al. (16)	Sanders et al. (17)	Present Study			
		Edinburgh			Aberdeen			London			Helsinki								all (no gender-specific analysis)	all	♀	♂
		all	♀	♂	all	♀	♂	all	♀	♂	all	♀	♂									
rs1655285	1	n.s.	n.s.	n.s.	0.016	n.s.	0.016	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	-	-	-	-	-	n.s.	n.s.	0.015	
rs2812393	12	-	-	-	-	-	-	-	-	-	-	-	-	0.048	n.s.	-	-	n.s.	n.s.	n.s.	0.048	
rs9432024	22	-	-	-	-	-	-	-	-	-	-	-	-	0.019	n.s.	-	-	-	n.s.	0.0008	n.s.	
rs999710	22	-	-	-	-	-	-	-	-	-	-	-	-	0.003	-	0.05	n.s.	n.s.	n.s.	0.0002	n.s.	
rs821631	27	n.s.	n.s.	n.s.	n.s.	0.043	0.014	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	-	n.s.	-	n.s.	n.s.	n.s.	0.0392	n.s.	

n.s.: not significant. -: not analyzed.

Supplementary Table 4

Significant haplotype association results in cases and controls at the *DISC* locus

Haplotype-block	Haplotype	% Patients	% Controls	p-value
All				
3	ACGAGATG	0.157	0.132	0.0390
22	ACCAACGAG	0.169	0.197	0.0389
Females				
2	ACACG	0.029	0.057	0.0112
3	GCGAAGTG	0.024	0.046	0.0260
7	CAGAC	0.005	0.016	0.0424
7	CGAGC	0.093	0.062	0.0310
12	ATCG	0.437	0.383	0.0393
13	GCGAACTCGC	0.080	0.121	0.0107
20	CCGCCCGCACCA	0.098	0.131	0.0492
22	GTCGACTGG	0.411	0.310	0.00009
22	ACCAACGAG	0.162	0.210	0.0186
23	GTAT	0.070	0.036	0.0037
31	TTGA	0.141	0.183	0.0324
Males				
1	AACGCGAAACA	0.107	0.070	0.00536
3	ACGAGATG	0.159	0.124	0.0302
3	GCGAAGTG	0.051	0.032	0.0448
28	CGGG	0.098	0.147	0.0015
28	CAGC	0.539	0.484	0.0196

Supplementary Table 5

Locus-specific *DISC* interaction in male cases and male controls. Single-marker association at rs1538979 in the stratified sample using rs821633 as a conditional marker (genotypes GG/GA).

SNP	MA ¹	% Cases (n=230) ²	% Controls (n=283) ³	p-value ⁴	OR	p-value all ⁵	OR all ⁵
rs1538979	A	0.153	0.103	0.0163	1.57	0.0889	1.27

¹ Minor allele in controls (MA). ² MA frequency (MAF) in allele-stratified male patients. ³ MAF in allele-stratified male controls. ⁴ p-value interplay-analysis. ⁵ p-value and OR in the non-stratified male sample.

Supplementary Table 6

DISC-meta-analysis in nine schizophrenia case-control samples from European populations. Study and sample information are presented. For each SNP the included samples are marked with an “x” and associations across samples are presented using the weighted Z-score method (*Comprehensive Meta Analysis v. 2* (<http://www.meta-analysis.com/pages/comparisons.html>)).

		Study name									
		Present Study	Wood et al. (16)	Hodgkinson et al. (7)	Sanders et al. (17)	Sullivan et al. (19)	Hennah et al. (18)				
							Edinburgh	Aberdeen	London	Helsinki	
Cases		782	311	196	1870	738	328	256	348	343	
Controls		839	291	217	2002	733	315	255	351	342	
Population		German	US-European	US-European	US-European	US-European	Scottish	Scottish	British	Finnish	
SNP	Position										p-value
rs4658879	229809198	x	x				x	x	x	x	0.033
rs1572899	229892113	x		x			x	x	x	x	0.019
rs3738401	229896918	x	x		x	x	x	x	x	x	0.091
rs1934909	229917902	x	x		x		x	x	x	x	0.166
rs2812385	229930625	x	x				x	x	x	x	0.036
rs2812388	229931999	x	x				x	x	x	x	0.205
rs12027635	229939821	x	x		x	x					0.233
rs1538979	229963491	x				x	x	x	x	x	0.004
rs17749164	229963830	x	x		x		x	x	x	x	0.086
rs7529706	229966552	x	x				x	x	x	x	0.152
rs2812389	229977634	x	x				x	x	x	x	0.103
rs16854954	229979215	x	x				x	x	x	x	0.077
rs16854957	229979516	x	x			x	x	x	x	x	0.017
rs2812393	229980296	x		x	x	x					0.143
rs17766087	229984500		x		x		x	x	x	x	0.059
rs17817356	229986844	x				x	x	x	x	x	0.002
rs17817463	229988905	x			x		x	x	x	x	0.132
rs11590192	229989468		x		x	x					0.108
rs1322784	229995558	x		x	x		x	x	x	x	0.015
rs2255340	230002773	x		x	x						0.127
rs2738864	230004103	x		x	x						0.127
rs1407598	230013448	x		x	x						0.245
rs967244	230015269		x		x		x	x	x	x	0.077

rs2738877	230016229			x		x		x	x	x	x	0.463
rs6675281	230020724	x		x		x		x	x	x	x	0.022
rs1000731	230030114	x		x		x						0.252
rs12731570	230048561			x		x		x	x	x	x	0.390
rs12090070	230051472	x		x				x				0.662
rs1015101	230074317	x						x	x	x	x	0.051
rs999710	230077566	x		x		x						0.048
rs11122362	230086482	x		x		x		x	x	x	x	0.055
rs967433	230098438	x				x		x	x	x	x	0.331
rs860275	230102768	x		x				x	x	x	x	0.003
rs11577215	230103529	x		x		x						0.325
rs7541019	230117808	x						x	x	x	x	0.025
rs2038636	230121872	x		x		x						0.043
rs821577	230133680	x						x	x	x	x	0.022
rs821581	230143695	x		x		x						0.181
rs4658966	230145237	x		x				x	x	x	x	0.136
rs2772122	230157116			x		x		x	x	x	x	0.346
rs11122381	230160730	x		x				x		x	x	0.163
rs821592	230160882	x				x		x	x	x	x	0.107
rs821616	230211221			x		x		x	x	x	x	0.528
rs821631	230214758			x		x		x	x	x	x	0.136
rs3524	230225302			x		x		x	x	x	x	0.394
rs1160491	230228516			x		x		x	x	x	x	0.197
rs2806465	230232917					x		x	x	x	x	0.240
rs9726024	230235123	x		x		x						0.450
rs16856308	230238240	x		x				x	x	x	x	0.114
rs980989	230242818	x		x		x		x				0.319

Supplementary Table 7

Single-marker association at the *DISC* locus: SNPs with significant deviations from Hardy-Weinberg-Equilibrium (HWE) in controls are shown for the entire sample (all) and for each gender-specific sample (females and males). None of the SNPs with HWD contributed to the association findings.

SNP	All		Females		Males	
	Genotypes	p-value	Genotypes	p-value	Genotypes	p-value
rs17804163	65/147/628	2.38E-21	28/56/277	8.35E-12	37/91/351	3.01E-11
rs1538975	98/339/405	0.03891				
rs12135059	78/314/452	0.03229				
rs12143549	78/314/452	0.03229				
rs12744978	79/317/448	0.04096				
rs11122347	105/345/394	0.03507				
rs11122348	21/286/537	0.02039				
rs2812393			69/156/136	0.04967		
rs17817463			11/74/275	0.04037		
rs1322783			14/83/264	0.04001		
rs860275			3/104/254	0.03851		
rs16841582					75/203/204	0.04936

Supplementary Table 8

Phenotypic composition of the patient sample: All subphenotypes used for stratification are presented for the entire sample and gender-specific samples (early age at onset (EAO), family history of psychiatric illness in first and second degree relatives (FAM), and lifetime history of depressive symptoms (DEP)). The percentage of patients showing a specific subphenotype is given in brackets.

		Non-stratified Sample			EAO ¹			FAM			DEP		
		all N=782	females n=354	males n=428	all n=194	females n=81	males n=113	all n=131	female n=67	males n=64	all n=232	female n=127	males n=105
EAO ¹	all	194 (24.8%)						34 (25.9%)			58 (25.0%)		
	female	81 (22.8%)						18 (26.8%)			30 (23.6%)		
	males	113 (26.4%)						16 (25.0%)			28 (26.6%)		
FAM	all	131 (16.7%)			34 (17.5%)						39 (16.8%)		
	female	67 (18.9%)			18 (22.2%)						23 (18.1%)		
	males	64 (14.9%)			16 (14.1%)						16 (15.2%)		
DEP	all	232 (29.6%)			58 (29.8%)			39 (29.7%)					
	female	127 (35.8%)			30 (37.0%)			23 (34.3%)					
	males	105 (24.5%)			28 (24.7%)			16 (25.0%)					

¹ The mean age at onset for schizophrenia was 26.37 years in the entire sample (27.14 years in the female subsample, and 25.69 years in the male subsample).

SUPPLEMENTARY REFERENCES

1. Falush, D., Stephens, M., Pritchard, J.K. (2003) Inference of population structure using multilocus genotype data: linked loci and correlated allele frequencies. *Genetics*, **164**, 1567-1587.
2. Pritchard, J.K., Stephens, M., Donnelly, P. (2000) Inference of population structure using multilocus genotype data. *Genetics*, **155**, 945-959.
3. Hoefgen, B., Schulze, T.G., Ohlraun, S., von Widdern, O., Höfels, S., Gross, M. *et al.* (2005) The power of sample size and homogenous sampling: association between the 5-HTTLPR serotonin transporter polymorphism and major depressive disorder. *Biol. Psychiatry*, **57**, 247-251.
4. Gabriel, S.B., Schaffner, S.F., Nguyen, H., Moore, J.M., Roy, J., Blumenstiel, B., Higgins, J., DeFelice, M., Lochner, A., Faggart, M. *et al.* (2002) The structure of haplotype blocks in the human genome. *Science*, **296**, 2225-2229.
5. Chubb, J.E., Bradshaw, N.J., Soares, D.C., Porteous, D.J., Millar, J.K. (2008) The DISC locus in psychiatric illness. *Mol. Psychiatry*, **13**, 36-64.
6. Hennah, W., Varilo, T., Kestilä, M., Paunio, T., Arajärvi, R., Haukka, J., Parker, A., Martin, R., Levitzky, S., Partonen, T. *et al.* (2003) Haplotype transmission analysis provides evidence of association for DISC1 to schizophrenia and suggests sex-dependent effects. *Hum. Mol. Genet.*, **12**, 3151-3159.
7. Hodgkinson, C.A., Goldman, D., Jaeger, J., Persaud, S., Kane, J.M., Lipsky, R.H., Malhotra, A.K. (2004) Disrupted in schizophrenia 1 (DISC1): association with schizophrenia, schizoaffective disorder, and bipolar disorder. *Am. J. Hum. Genet.*, **75**, 862-872

8. Kockelkorn, T.T., Arai, M., Matsumoto, H., Fukuda, N., Yamada, K., Minabe, Y., Toyota, T., Ujike, H., Sora, I., Mori, N. *et al.* (2004) Association study of polymorphisms in the 5' upstream region of human DISC1 gene with schizophrenia. *Neurosci. Lett.*, **368**, 41-45.
9. Callicott, J.H., Straub, R.E., Pezawas, L., Egan, M.F., Mattay, V.S., Hariri, A.R., Verchinski, B.A., Meyer-Lindenberg, A., Balkissoon, R., Kolachana, B. *et al.* (2005) Variation in DISC1 affects hippocampal structure and function and increases risk for schizophrenia. *Proc. Natl. Acad. Sci. U S A*, **102**, 8627-8632.
10. Thomson, P.A., Wray, N.R., Millar, J.K., Evans, K.L., Hellard, S.L., Condie, A., Muir, W.J., Blackwood, D.H., Porteous, D.J. (2005) Association between the TRAX/DISC locus and both bipolar disorder and schizophrenia in the Scottish population. *Mol. Psychiatry*, **10**, 657-668.
11. Zhang, X., Tochigi, M., Ohashi, J., Maeda, K., Kato, T., Okazaki, Y., Kato, N., Tokunaga, K., Sawa, A., Sasaki, T. (2005) Association study of the DISC1/TRAX locus with schizophrenia in a Japanese population. *Schizophr. Res.*, **79**, 175-180.
12. Hashimoto, R., Numakawa, T., Ohnishi, T., Kumamaru, E., Yagasaki, Y., Ishimoto, T., Mori, T., Nemoto, K., Adachi, N., Izumi, A. *et al.* (2006) Impact of the DISC1 Ser704Cys polymorphism on risk for major depression, brain morphology and ERK signaling. *Hum. Mol. Genet.*, **15**, 3024-3033.
13. Zhang, F., Sarginson, J., Crombie, C., Walker, N., St Clair, D., Shaw, D. (2006) Genetic association between schizophrenia and the DISC1 gene in the Scottish population. *Am. J. Med. Genet.*, **141**, 155-159.
14. Chen, Q.Y., Chen, Q., Feng, G.Y., Lindpaintner, K., Wang, L.J., Chen, Z.X., Gao, Z.S., Tang, J.S., Huang, G., He, L. (2007) Case-control association study of Disrupted-in-

- Schizophrenia-1 (DISC1) gene and schizophrenia in the Chinese population. *J. Psychiatr. Res.*, **41**, 428-434.
15. Qu, M., Tang, F., Yue, W., Ruan, Y., Lu, T., Liu, Z., Zhang, H., Han, Y., Zhang, D., Wang, F. *et al.* (2007) Positive association of the Disrupted-in-Schizophrenia-1 gene (DISC1) with schizophrenia in the Chinese Han population. *Am. J. Med. Genet.*, **144**, 266-270.
 16. Wood, L.S., Pickering, E.H., Dechairo, B.M. (2007) Significant support for DAO as a schizophrenia susceptibility locus: examination of five genes putatively associated with schizophrenia. *Biol. Psychiatry*, **61**, 1195-1199.
 17. Sanders, A.R., Duan, J., Levinson, D.F., Shi, J., He, D., Hou, C., Burrell, G.J., Rice, J.P., Nertney, D.A., Olincy, A. *et al.* (2008) No Significant Association of 14 Candidate Genes With Schizophrenia in a Large European Ancestry Sample: Implications for Psychiatric Genetics. *Am. J. Psychiatry*, **165**, 497-506.
 18. Hennah, W., Thomson, P., McQuillin, A., Bass, N., Loukola, A., Anjorin, A., Blackwood, D., Curtis, D., Deary, I.J., Harris, S.E. *et al.* (2008) DISC1 association, heterogeneity and interplay in schizophrenia and bipolar disorder. *Mol. Psychiatry*, Epub ahead of print
 19. Sullivan, P.F., Lin, D., Tzeng, J.Y., van den Oord, E., Perkins D., Stroup, T.S., Wagner, M., Lee, S., Wright, F.A., Zou, F. *et al.* (2008) Genomewide association for schizophrenia in the CATIE study: results of stage 1. *Mol. Psychiatry*, **13**, 570-584.
 20. Purcell, S., Cherny, S.S., Sham, P.C. (2003) Genetic Power Calculator: design of linkage and association genetic mapping studies of complex traits. *Bioinformatics*, **19**, 149-150.
 21. Lencz, T., Morgan, T.V., Athanasiou, M., Dain, B., Reed, C.R., Kane, J.M., Kucherlapati, R., Malhotra, A.K. (2007) Converging evidence for a pseudoautosomal cytokine receptor gene locus in schizophrenia. *Mol. Psychiatry*, **12**, 572-580.