

Table S1 Basic characteristics of included GWASs used in the present MR analysis

GWAS type	PMID	Sources	Sample size (case/control)	Phenotype ascertainment
SHBG	33462484	UK Biobank	363,228	Detected by Chemiluminescent immunoassay
Late-onset AD	30820047	-	21,982/41,994	-
		ADGC	14,428/14,562	Autopsy-confirmed or clinically-confirmed
		CHARGE	2,137/13,474	Autopsy-confirmed or clinically-confirmed
		EADI	2,240/6,631	Autopsy-confirmed or clinically-confirmed
		GERAD/PERADES	3,177/7,277	Autopsy-confirmed or clinically-confirmed
Paternal AD	29777097	UK Biobank	14,338/245,941	Self-reported
Maternal AD	29777097	UK Biobank	27,696/260,980	Self-reported
PD	31701892	Nalls and colleagues	13,708/95,282	Clinically-confirmed
		IPDGC-NeuroX	5,851/5,866	Clinically-confirmed
		PDWBS	6,476/302,042	Clinically-confirmed
		UK Biobank	18,618/436,419	Self-reported
		SGPD	1,169/968	Clinically-confirmed
		IPDGC	8,036/5,803	Clinically-confirmed
		Post-Chang, 23andMe	2,448/571,411	Clinically-confirmed
ALS	29566793	-	20,806/59,804	-
		Italy	2,853/2,143	Clinically-confirmed
		United Kingdom	449/226	Clinically-confirmed
		Belgium/France	1,150/595	Clinically-confirmed
		USA	3,777/33,365	Clinically-confirmed
		Van Rheenen Study	12,577/23,475	Clinically-confirmed
MS	31604244	International Multiple Sclerosis Genetics Consortium	47,429/68,374	Clinically-confirmed
DLB	33589841	44 institutions/consortia	2,981/4,391	Clinically-confirmed or pathologically-confirmed
FTD	24943344	44 international research groups	3,526/9,402	Clinically-confirmed or pathologically-confirmed

SHBG, serum sex hormone binding protein; GWAS, Genome wide association study; MR, Mendelian randomization; ADGC, Alzheimer Disease Genetics Consortium; CHARGE, Cohorts for Heart and Aging Research in Genomic Epidemiology Consortium; EADI, Genetic and Environmental Risk in AD/Defining Genetic; GERAD/PERADES, Polygenic and Environmental Risk for Alzheimer's Disease Consortium; UKB, UK Biobank; IPDGC, International Parkinson's Disease Genomics Consortium; PDWBS, Parkinson's disease web-based study; SGPD, Systems genomics of Parkinson's disease consortium; IPDGC, International Parkinson's Disease Genomics Consortium; AD, Alzheimer's disease; PD, Parkinson's disease; ALS, amyotrophic lateral sclerosis; MS, multiple sclerosis; DLB, Dementia with Lewy Bodies; FTD, frontotemporal dementia.

Table S2 SNP identified in AD GWAS

SNP	effect_allele	other_allele	eaf.exposure	eaf.outcome	beta.exposure	se.exposure	pval.exposure	beta.outcome	se.outcome	pval.outcome
rs10069690	T	C	NA	NA	-0.017	0.0028	2.13E-09	-0.0322	0.0215	0.1336
rs1060817	G	A	NA	NA	-0.0176	0.0025	5.12E-12	-0.0065	0.0147	0.6587
rs1076540	T	C	NA	NA	0.0169	0.0029	8.14E-09	0.0031	0.0168	0.8532
rs10838681	A	G	NA	NA	0.0162	0.0028	8.80E-09	0.0045	0.0165	0.7842
rs10871777	G	A	NA	NA	-0.0227	0.0029	8.41E-15	-0.0347	0.0168	0.03837
rs1106766	T	C	NA	NA	0.0357	0.0029	5.41E-34	0.0018	0.0171	0.9168
rs11075253	A	C	NA	NA	0.023	0.0028	6.30E-17	-0.0112	0.0159	0.48
rs11078405	T	G	NA	NA	-0.0293	0.0026	1.40E-29	-0.0324	0.0146	0.02596
rs1126670	A	C	NA	NA	-0.028	0.0027	1.35E-24	0.029	0.0156	0.06277
rs1128249	T	G	NA	NA	0.0286	0.0026	8.43E-29	-0.02	0.0145	0.1672
rs11550348	A	G	NA	NA	0.0536	0.0038	5.40E-46	-5.00E-04	0.0224	0.9816
rs116189680	A	G	NA	NA	0.1439	0.0077	6.52E-78	0.0036	0.059	0.9519
rs11626364	C	T	NA	NA	0.0237	0.0035	9.61E-12	0.0124	0.0199	0.5315
rs11636917	C	T	NA	NA	-0.0247	0.0026	1.06E-20	0.0315	0.0149	0.03406
rs11647008	C	T	NA	NA	-0.0249	0.0025	6.86E-23	0.0034	0.0144	0.8111
rs11655704	C	T	NA	NA	0.0785	0.0027	1.30E-189	-0.0124	0.0156	0.4284
rs11739158	T	C	NA	NA	0.0148	0.0025	4.85E-09	0.003	0.0143	0.8352
rs11748288	G	A	NA	NA	0.0167	0.0025	5.85E-11	0.0407	0.0145	0.005182
rs1183910	A	G	NA	NA	-0.0261	0.0027	6.73E-22	-0.0073	0.0154	0.638
rs11856886	G	A	NA	NA	0.0194	0.0027	1.27E-12	-0.0504	0.0155	0.001162
rs11887329	G	A	NA	NA	-0.0213	0.003	7.13E-13	-0.0108	0.0168	0.5217
rs11918018	A	G	NA	NA	-0.0153	0.0025	1.03E-09	0.0025	0.0143	0.8634
rs11935444	C	T	NA	NA	-0.0165	0.0026	4.11E-10	-0.0304	0.0144	0.03545
rs12192649	A	G	NA	NA	0.022	0.003	9.97E-14	-0.0021	0.0172	0.9039
rs12325400	G	C	NA	NA	-0.016	0.0026	4.03E-10	-0.0402	0.0148	0.006624
rs12414178	T	C	NA	NA	-0.0269	0.0029	5.57E-20	0.002	0.0169	0.9066
rs12569576	G	A	NA	NA	-0.017	0.0025	1.25E-11	0.006	0.0145	0.6804
rs12575636	G	T	NA	NA	-0.027	0.0033	1.36E-16	0.0294	0.0182	0.1055
rs1260326	C	T	NA	NA	0.0772	0.0026	4.58E-198	-0.0147	0.0145	0.3099
rs12748152	T	C	NA	NA	-0.0668	0.0046	2.79E-47	0.0207	0.0265	0.4358
rs12941564	G	C	NA	NA	0.0239	0.0028	1.31E-17	0.0205	0.0159	0.1952
rs13094241	G	T	NA	NA	0.0172	0.0028	1.04E-09	0.0194	0.0164	0.2364
rs13354321	C	T	NA	NA	0.0144	0.0025	1.44E-08	0.0144	0.015	0.3379
rs1421085	C	T	NA	NA	-0.0183	0.0026	8.91E-13	0.0026	0.0145	0.8601
rs1497406	G	A	NA	NA	0.027	0.0025	1.56E-26	0.0058	0.0145	0.69
rs1547014	C	T	NA	NA	-0.0293	0.0027	5.70E-28	-0.0283	0.0155	0.06867
rs1556562	T	G	NA	NA	0.0243	0.003	8.54E-16	-0.0262	0.0176	0.1379
rs157934	C	T	NA	NA	0.0229	0.0027	4.25E-17	-0.0216	0.0158	0.1702
rs1635852	C	T	NA	NA	0.0187	0.0025	6.54E-14	0.0376	0.0142	0.00836
rs16845803	G	A	NA	NA	-0.0251	0.0037	1.08E-11	0.0497	0.021	0.01808
rs17041868	C	T	NA	NA	-0.0346	0.005	6.49E-12	0.0232	0.0301	0.4405
rs1716403	C	T	NA	NA	-0.0168	0.0027	3.75E-10	0.0205	0.0153	0.1806
rs17202341	G	A	NA	NA	0.0157	0.0026	2.86E-09	-0.0157	0.015	0.296
rs17377148	G	T	NA	NA	0.0401	0.0048	1.13E-16	-0.029	0.0291	0.319
rs174601	T	C	NA	NA	-0.0252	0.0026	1.80E-22	-0.0032	0.0154	0.8335
rs1755618	T	G	NA	NA	-0.0252	0.0035	1.17E-12	0.0231	0.0215	0.2819
rs17580	A	T	NA	NA	0.0535	0.0059	1.54E-19	0.0636	0.0331	0.05506
rs17628931	C	T	NA	NA	0.0294	0.0041	4.71E-13	-0.0267	0.0228	0.2433
rs1772183	A	G	NA	NA	-0.022	0.0025	1.30E-18	-0.0026	0.0142	0.8518
rs17794619	A	G	NA	NA	-0.0347	0.0037	3.61E-21	0.0029	0.021	0.889
rs17826544	G	A	NA	NA	0.029	0.0026	3.87E-29	-0.0337	0.0148	0.02224
rs1801282	G	C	NA	NA	0.0377	0.0039	1.41E-22	-0.0267	0.022	0.2236
rs1801689	C	A	NA	NA	-0.0912	0.0074	6.69E-35	-0.0572	0.0465	0.2192
rs1832007	G	A	NA	NA	-0.0483	0.0035	3.66E-43	-0.0194	0.02	0.3328
rs1935	G	C	NA	NA	0.1198	0.0025	1.00E-200	-0.012	0.0142	0.3991
rs1982151	G	A	NA	NA	-0.049	0.0028	9.23E-67	0.0233	0.0161	0.1478
rs2081687	C	T	NA	NA	0.0247	0.0026	1.03E-20	0.0013	0.015	0.9326
rs2205262	A	C	NA	NA	-0.0167	0.0025	4.00E-11	-0.0309	0.0144	0.0323
rs2254069	A	G	NA	NA	-0.0265	0.0038	2.11E-12	0.0234	0.022	0.286
rs2266782	A	G	NA	NA	-0.0163	0.0025	1.25E-10	-0.0025	0.0145	0.8605
rs2335077	G	A	NA	NA	0.0463	0.0026	1.71E-69	-0.0043	0.0151	0.7761
rs2427530	A	G	NA	NA	0.0194	0.0029	2.99E-11	0.0263	0.0169	0.1196
rs2487826	C	T	NA	NA	0.0176	0.0025	3.56E-12	-0.0077	0.0143	0.592
rs2537855	G	A	NA	NA	0.0447	0.0028	3.56E-59	-0.0063	0.016	0.695
rs2618566	T	G	NA	NA	-0.0171	0.0026	8.57E-11	-0.0163	0.0154	0.292
rs2642420	A	C	NA	NA	-0.0247	0.0033	9.54E-14	-0.0295	0.0188	0.1176
rs2836950	G	C	NA	NA	-0.0154	0.0026	3.64E-09	-0.0052	0.0149	0.7274
rs2860075	G	A	NA	NA	-0.0289	0.0026	1.40E-28	-0.0187	0.0149	0.2105
rs28925904	T	C	NA	NA	-0.0576	0.0081	1.49E-12	0.0718	0.0595	0.2275
rs28929474	T	C	NA	NA	0.219	0.0091	5.87E-129	-0.0678	0.0562	0.2274
rs2943641	C	T	NA	NA	-0.0322	0.0026	6.16E-35	0.0123	0.0147	0.4024

Table S2 (continued)

Table S2 (continued)

SNP	effect_allele	other_allele	eaf.exposure	eaf.outcome	beta.exposure	se.exposure	pval.exposure	beta.outcome	se.outcome	pval.outcome
rs3132469	G	A	NA	NA	-0.033	0.0035	8.29E-21	-0.0492	0.0219	0.02476
rs34145453	G	A	NA	NA	0.0189	0.0026	2.90E-13	0.0188	0.0151	0.2138
rs34372369	A	G	NA	NA	0.037	0.0057	6.20E-11	-0.0137	0.0341	0.6869
rs35371479	T	C	NA	NA	0.0256	0.0033	7.00E-15	-0.0075	0.0182	0.6777
rs35386490	C	T	NA	NA	0.1118	0.003	1.00E-200	0.0271	0.022	0.2188
rs35627524	G	T	NA	NA	-0.0433	0.0067	1.09E-10	0.0337	0.0396	0.3949
rs3749237	A	G	NA	NA	-0.0257	0.0027	8.87E-22	-0.0094	0.0154	0.5388
rs3779195	A	T	NA	NA	-0.0768	0.0032	2.35E-126	-0.0019	0.0185	0.9191
rs3818247	T	G	NA	NA	-0.0247	0.0026	2.95E-21	-0.0084	0.0165	0.61
rs3848375	T	C	NA	NA	0.0231	0.0032	3.11E-13	-0.0253	0.0182	0.164
rs41302867	A	G	NA	NA	-0.0342	0.0039	8.26E-19	-0.0101	0.0225	0.6524
rs4149056	C	T	NA	NA	-0.067	0.0035	9.39E-81	0.0074	0.0198	0.7085
rs4381968	T	C	NA	NA	-0.0138	0.0025	4.23E-08	0.0092	0.0148	0.5345
rs440837	G	A	NA	NA	0.0466	0.0031	1.16E-50	0.0251	0.0171	0.1414
rs45512696	T	C	NA	NA	0.0407	0.0033	2.72E-34	-0.0012	0.0196	0.9494
rs45535039	C	T	NA	NA	0.0204	0.0028	3.34E-13	0.0064	0.016	0.6915
rs4639796	A	G	NA	NA	-0.0296	0.0034	3.23E-18	0.0078	0.0194	0.689
rs464605	T	C	NA	NA	-0.0323	0.0029	1.25E-29	0.0027	0.0167	0.8727
rs4660293	G	A	NA	NA	-0.0295	0.003	5.90E-23	0.0149	0.0167	0.3717
rs4690098	T	C	NA	NA	-0.0498	0.003	1.01E-61	-0.011	0.0175	0.5308
rs4822455	T	C	NA	NA	-0.0184	0.0025	3.48E-13	0.0055	0.0145	0.705
rs4983559	A	G	NA	NA	-0.0179	0.0026	2.85E-12	0.0213	0.0148	0.1489
rs555754	A	G	NA	NA	0.0343	0.0025	5.02E-42	0.0318	0.0143	0.02598
rs55707100	T	C	NA	NA	-0.1171	0.0081	1.76E-47	0.0253	0.0392	0.5184
rs55840085	A	G	NA	NA	0.0195	0.0026	6.35E-14	-0.0326	0.0153	0.03391
rs56196860	A	C	NA	NA	0.0478	0.0073	5.01E-11	0.0015	0.055	0.9788
rs5745687	T	C	NA	NA	0.0307	0.0051	2.07E-09	0.0158	0.0281	0.5739
rs57506806	G	A	NA	NA	0.0351	0.003	2.25E-32	-0.0162	0.0175	0.3548
rs58941251	T	C	NA	NA	-0.0241	0.0041	2.74E-09	0.0226	0.0229	0.3232
rs6129800	A	G	NA	NA	0.0239	0.003	1.35E-15	-0.0277	0.0177	0.1166
rs61935507	T	C	NA	NA	-0.0295	0.0037	1.50E-15	-0.0435	0.0217	0.04533
rs62576339	C	T	NA	NA	0.03	0.0029	8.22E-25	0.0309	0.0173	0.07435
rs62580767	C	T	NA	NA	0.0234	0.0033	8.54E-13	-0.0116	0.0186	0.5305
rs62618693	T	C	NA	NA	0.041	0.0061	1.93E-11	0.0205	0.0389	0.5985
rs6356	T	C	NA	NA	0.0199	0.0026	2.43E-14	0.0055	0.0154	0.7215
rs645040	T	G	NA	NA	-0.0691	0.003	9.86E-120	-0.035	0.017	0.03902
rs6736913	G	A	NA	NA	-0.0712	0.0089	1.12E-15	0.0521	0.0607	0.3909
rs6756943	A	G	NA	NA	-0.0448	0.0027	5.62E-61	0.0137	0.0156	0.3829
rs6954673	T	C	NA	NA	-0.0185	0.0026	1.27E-12	0.0137	0.0149	0.36
rs7221345	A	G	NA	NA	-0.0325	0.0026	3.13E-37	-0.0436	0.0147	0.003118
rs7239151	A	G	NA	NA	0.0155	0.0027	6.50E-09	0.0085	0.0156	0.5884
rs724577	C	A	NA	NA	-0.0186	0.0028	6.04E-11	0.0197	0.0162	0.2234
rs7250351	A	G	NA	NA	0.0229	0.0041	2.17E-08	-0.0131	0.026	0.6141
rs7250425	T	C	NA	NA	0.0179	0.0025	7.64E-13	-0.0091	0.0143	0.5266
rs72683923	C	T	NA	NA	0.0774	0.0092	5.67E-17	-0.1035	0.0504	0.03993
rs72756074	G	A	NA	NA	0.023	0.0038	1.65E-09	-0.044	0.0223	0.04856
rs7314285	G	T	NA	NA	0.0764	0.0048	3.82E-56	0.0525	0.0287	0.06707
rs738409	G	C	NA	NA	0.0486	0.003	5.06E-58	-0.0115	0.0176	0.5138
rs7429135	G	T	NA	NA	0.0199	0.0034	5.92E-09	-0.0107	0.0193	0.5778
rs750472	C	A	NA	NA	-0.0216	0.0025	4.22E-18	-0.0029	0.0146	0.84
rs76610881	G	A	NA	NA	0.0418	0.0041	7.29E-25	-0.05	0.026	0.05442
rs7694379	A	G	NA	NA	-0.042	0.0025	4.75E-62	-0.0142	0.0144	0.3236
rs7697204	T	C	NA	NA	-0.0295	0.0028	4.24E-25	0.0306	0.0162	0.05929
rs78025076	T	C	NA	NA	0.0503	0.0089	1.62E-08	-5.00E-04	0.0599	0.9927
rs78444298	A	G	NA	NA	-0.0613	0.0093	5.44E-11	-0.0322	0.0671	0.6314
rs7922067	A	G	NA	NA	-0.0211	0.0025	1.18E-16	0.0043	0.0146	0.7668
rs7947951	G	A	NA	NA	-0.0283	0.0027	9.37E-26	0.0308	0.0153	0.04386
rs7994151	G	A	NA	NA	-0.0206	0.0035	2.89E-09	-0.0116	0.02	0.5602
rs8017377	A	G	NA	NA	-0.0342	0.0025	3.92E-42	0.0025	0.0146	0.8614
rs8023580	C	T	NA	NA	0.073	0.0028	1.52E-150	-0.0196	0.016	0.2196
rs9316500	G	T	NA	NA	-0.0172	0.0027	3.05E-10	-0.0203	0.0154	0.1878
rs9332817	C	G	NA	NA	0.05	0.0079	3.09E-10	0.0029	0.0515	0.9553
rs9388768	A	C	NA	NA	-0.0197	0.0027	1.39E-13	0.0032	0.0153	0.8341
rs9427104	T	C	NA	NA	0.027	0.0025	4.04E-27	0.0102	0.0142	0.4726
rs9556403	G	A	NA	NA	0.0205	0.0026	4.66E-15	0.0097	0.0148	0.5152
rs9644032	G	T	NA	NA	-0.0159	0.0026	1.03E-09	0.0165	0.0151	0.2729
rs976002	G	A	NA	NA	0.035	0.0029	1.60E-33	-0.04	0.0208	0.05491
rs9892297	G	A	NA	NA	-0.1366	0.0026	1.00E-200	0.0206	0.0156	0.1862
rs9987289	G	A	NA	NA	0.0437	0.0043	3.22E-24	-0.027	0.0256	0.2921

SNP, single nucleotide polymorphism; AD, Alzheimer's disease; GWAS, genome-wide association studies; NA, not available.

Table S3 SNPs identified in maternal AD GWAS

SNP	effect_allele	other_allele	eaf.exposure	eaf.outcome	beta.exposure	se.exposure	pval.exposure	beta.outcome	se.outcome	pval.outcome
rs10069690	T	C	NA	NA	-0.017	0.0028	2.13E-09	-0.04975	0.020069	0.013183
rs1060817	G	A	NA	NA	-0.0176	0.0025	5.12E-12	0.011114	0.017727	0.530698
rs1076540	T	C	NA	NA	0.0169	0.0029	8.14E-09	-0.03771	0.020537	0.066347
rs10838681	A	G	NA	NA	0.0162	0.0028	8.80E-09	-0.02157	0.019742	0.274476
rs10871777	G	A	NA	NA	-0.0227	0.0029	8.41E-15	0.00919	0.02051	0.654094
rs1106766	T	C	NA	NA	0.0357	0.0029	5.41E-34	0.00723	0.020317	0.721935
rs11075253	A	C	NA	NA	0.023	0.0028	6.30E-17	0.009964	0.019106	0.602009
rs11078405	T	G	NA	NA	-0.0293	0.0026	1.40E-29	-0.06038	0.018153	0.00088
rs1126670	A	C	NA	NA	-0.028	0.0027	1.35E-24	0.042508	0.019103	0.026072
rs1128249	T	G	NA	NA	0.0286	0.0026	8.43E-29	-0.00314	0.017889	0.860462
rs11550348	A	G	NA	NA	0.0536	0.0038	5.40E-46	0.012394	0.02658	0.641011
rs116189680	A	G	NA	NA	0.1439	0.0077	6.52E-78	0.059445	0.05313	0.263204
rs11626364	C	T	NA	NA	0.0237	0.0035	9.61E-12	-0.00935	0.024285	0.700375
rs11636917	C	T	NA	NA	-0.0247	0.0026	1.06E-20	-0.00127	0.018388	0.944799
rs11647008	C	T	NA	NA	-0.0249	0.0025	6.86E-23	0.002747	0.017494	0.875211
rs11655704	C	T	NA	NA	0.0785	0.0027	1.30E-189	-0.00822	0.018772	0.661595
rs11739158	T	C	NA	NA	0.0148	0.0025	4.85E-09	0.030774	0.017659	0.08138
rs11748288	G	A	NA	NA	0.0167	0.0025	5.85E-11	0.035954	0.017768	0.04302
rs1183910	A	G	NA	NA	-0.0261	0.0027	6.73E-22	-0.02844	0.018986	0.134127
rs11856886	G	A	NA	NA	0.0194	0.0027	1.27E-12	-0.02242	0.018997	0.237999
rs11887329	G	A	NA	NA	-0.0213	0.003	7.13E-13	0.04302	0.020576	0.036543
rs11918018	A	G	NA	NA	-0.0153	0.0025	1.03E-09	-0.00128	0.017497	0.941567
rs11935444	C	T	NA	NA	-0.0165	0.0026	4.11E-10	-0.02784	0.017681	0.115325
rs12192649	A	G	NA	NA	0.022	0.003	9.97E-14	0.007127	0.020465	0.727665
rs12325400	G	C	NA	NA	-0.016	0.0026	4.03E-10	-0.05864	0.017852	0.00102
rs12414178	T	C	NA	NA	-0.0269	0.0029	5.57E-20	0.020264	0.02059	0.325038
rs12569576	G	A	NA	NA	-0.017	0.0025	1.25E-11	0.017522	0.017551	0.318111
rs12575636	G	T	NA	NA	-0.027	0.0033	1.36E-16	0.010212	0.022352	0.647784
rs1260326	C	T	NA	NA	0.0772	0.0026	4.58E-198	-0.02535	0.017866	0.155885
rs12748152	T	C	NA	NA	-0.0668	0.0046	2.79E-47	-0.05651	0.032357	0.080711
rs13094241	G	T	NA	NA	0.0172	0.0028	1.04E-09	0.028171	0.019659	0.151856
rs13354321	C	T	NA	NA	0.0144	0.0025	1.44E-08	-0.01184	0.017704	0.503463
rs1421085	C	T	NA	NA	-0.0183	0.0026	8.91E-13	-0.00103	0.017845	0.954007
rs1497406	G	A	NA	NA	0.027	0.0025	1.56E-26	0.009239	0.017692	0.601512
rs1547014	C	T	NA	NA	-0.0293	0.0027	5.70E-28	-0.01447	0.018588	0.436271
rs1556562	T	G	NA	NA	0.0243	0.003	8.54E-16	0.023992	0.020888	0.250723
rs157934	C	T	NA	NA	0.0229	0.0027	4.25E-17	0.041666	0.018926	0.027695
rs1635852	C	T	NA	NA	0.0187	0.0025	6.54E-14	0.037209	0.017447	0.032952
rs16845803	G	A	NA	NA	-0.0251	0.0037	1.08E-11	0.037215	0.02577	0.148706
rs17041868	C	T	NA	NA	-0.0346	0.005	6.49E-12	0.006253	0.035595	0.860559
rs1716403	C	T	NA	NA	-0.0168	0.0027	3.75E-10	0.000292	0.018711	0.987564
rs17202341	G	A	NA	NA	0.0157	0.0026	2.86E-09	-0.04017	0.018355	0.028618
rs17377148	G	T	NA	NA	0.0401	0.0048	1.13E-16	0.013581	0.033107	0.681663
rs174601	T	C	NA	NA	-0.0252	0.0026	1.80E-22	-0.0187	0.018059	0.300449
rs1755618	T	G	NA	NA	-0.0252	0.0035	1.17E-12	0.009397	0.025121	0.708361
rs17580	A	T	NA	NA	0.0535	0.0059	1.54E-19	0.032912	0.040338	0.414556
rs17628931	C	T	NA	NA	0.0294	0.0041	4.71E-13	0.034494	0.027983	0.217693
rs1772183	A	G	NA	NA	-0.022	0.0025	1.30E-18	-0.02406	0.017482	0.168719
rs17794619	A	G	NA	NA	-0.0347	0.0037	3.61E-21	0.017153	0.025239	0.496728
rs17826544	G	A	NA	NA	0.029	0.0026	3.87E-29	-0.01124	0.017917	0.530472
rs1801282	G	C	NA	NA	0.0377	0.0039	1.41E-22	-0.0397	0.027007	0.141575
rs1801689	C	A	NA	NA	-0.0912	0.0074	6.69E-35	0.039163	0.051242	0.444705
rs1832007	G	A	NA	NA	-0.0483	0.0035	3.66E-43	-0.01493	0.02418	0.536866
rs1935	G	C	NA	NA	0.1198	0.0025	1.00E-200	-0.01143	0.017513	0.514074
rs1982151	G	A	NA	NA	-0.049	0.0028	9.23E-67	0.00278	0.020023	0.889559
rs2081687	C	T	NA	NA	0.0247	0.0026	1.03E-20	0.025985	0.018514	0.160452
rs2205262	A	C	NA	NA	-0.0167	0.0025	4.00E-11	-0.01439	0.017643	0.41474
rs2254069	A	G	NA	NA	-0.0265	0.0038	2.11E-12	-0.02883	0.02696	0.28482
rs2266782	A	G	NA	NA	-0.0163	0.0025	1.25E-10	0.005005	0.017706	0.777443
rs2335077	G	A	NA	NA	0.0463	0.0026	1.71E-69	-0.01536	0.018375	0.403286
rs2427530	A	G	NA	NA	0.0194	0.0029	2.99E-11	0.032276	0.020215	0.110356
rs2487826	C	T	NA	NA	0.0176	0.0025	3.56E-12	0.003413	0.017699	0.847065
rs2537855	G	A	NA	NA	0.0447	0.0028	3.56E-59	0.002748	0.019308	0.886805
rs2618566	T	G	NA	NA	-0.0171	0.0026	8.57E-11	-0.00288	0.018439	0.875742
rs2642420	A	C	NA	NA	-0.0247	0.0033	9.54E-14	0.02142	0.023035	0.352429
rs2836950	G	C	NA	NA	-0.0154	0.0026	3.64E-09	-0.01037	0.018258	0.56994
rs2860075	G	A	NA	NA	-0.0289	0.0026	1.40E-28	-0.02624	0.018203	0.149397
rs28925904	T	C	NA	NA	-0.0576	0.0081	1.49E-12	0.049009	0.055511	0.377306
rs28929474	T	C	NA	NA	0.219	0.0091	5.87E-129	-0.07902	0.06239	0.205299
rs2943641	C	T	NA	NA	-0.0322	0.0026	6.16E-35	0.02516	0.018311	0.169429
rs3132469	G	A	NA	NA	-0.033	0.0035	8.29E-21	-0.0687	0.024243	0.004601

Table S3 (continued)

Table S3 (continued)

SNP	effect_allele	other_allele	eaf.exposure	eaf.outcome	beta.exposure	se.exposure	pval.exposure	beta.outcome	se.outcome	pval.outcome
rs34145453	G	A	NA	NA	0.0189	0.0026	2.90E-13	-0.01572	0.018144	0.386369
rs34372369	A	G	NA	NA	0.037	0.0057	6.20E-11	-0.02866	0.039921	0.472773
rs35371479	T	C	NA	NA	0.0256	0.0033	7.00E-15	-0.00291	0.022764	0.898447
rs35627524	G	T	NA	NA	-0.0433	0.0067	1.09E-10	-0.00499	0.046822	0.915169
rs3749237	A	G	NA	NA	-0.0257	0.0027	8.87E-22	0.031401	0.018598	0.091345
rs3779195	A	T	NA	NA	-0.0768	0.0032	2.35E-126	-0.00276	0.022467	0.902223
rs3818247	T	G	NA	NA	-0.0247	0.0026	2.95E-21	-0.02154	0.018208	0.23677
rs3848375	T	C	NA	NA	0.0231	0.0032	3.11E-13	-0.03109	0.022016	0.157866
rs41302867	A	G	NA	NA	-0.0342	0.0039	8.26E-19	-0.01366	0.026657	0.608229
rs4149056	C	T	NA	NA	-0.067	0.0035	9.39E-81	0.003491	0.024447	0.88646
rs4381968	T	C	NA	NA	-0.0138	0.0025	4.23E-08	-0.02557	0.017605	0.146309
rs440837	G	A	NA	NA	0.0466	0.0031	1.16E-50	0.014053	0.021725	0.517711
rs45512696	T	C	NA	NA	0.0407	0.0033	2.72E-34	-0.00257	0.023011	0.911089
rs45535039	C	T	NA	NA	0.0204	0.0028	3.34E-13	-0.00715	0.019683	0.716432
rs4639796	A	G	NA	NA	-0.0296	0.0034	3.23E-18	-0.01633	0.023883	0.494162
rs464605	T	C	NA	NA	-0.0323	0.0029	1.25E-29	0.009331	0.020068	0.641944
rs4660293	G	A	NA	NA	-0.0295	0.003	5.90E-23	-0.00076	0.020617	0.970436
rs4690098	T	C	NA	NA	-0.0498	0.003	1.01E-61	0.011287	0.020936	0.589816
rs4822455	T	C	NA	NA	-0.0184	0.0025	3.48E-13	0.01906	0.017717	0.282014
rs4983559	A	G	NA	NA	-0.0179	0.0026	2.85E-12	0.011058	0.017972	0.53837
rs555754	A	G	NA	NA	0.0343	0.0025	5.02E-42	-0.02461	0.017535	0.160432
rs55707100	T	C	NA	NA	-0.1171	0.0081	1.76E-47	0.020801	0.056002	0.710315
rs55840085	A	G	NA	NA	0.0195	0.0026	6.35E-14	-0.02055	0.018251	0.260097
rs56196860	A	C	NA	NA	0.0478	0.0073	5.01E-11	-0.00018	0.050003	0.99711
rs5745687	T	C	NA	NA	0.0307	0.0051	2.07E-09	0.014957	0.035291	0.671705
rs57506806	G	A	NA	NA	0.0351	0.003	2.25E-32	-0.00537	0.020742	0.795552
rs58941251	T	C	NA	NA	-0.0241	0.0041	2.74E-09	0.013725	0.028079	0.624973
rs6129800	A	G	NA	NA	0.0239	0.003	1.35E-15	-0.0062	0.020984	0.767685
rs61935507	T	C	NA	NA	-0.0295	0.0037	1.50E-15	0.02591	0.025598	0.311451
rs62576339	C	T	NA	NA	0.03	0.0029	8.22E-25	-0.01467	0.020522	0.47478
rs62580767	C	T	NA	NA	0.0234	0.0033	8.54E-13	0.018203	0.022597	0.420494
rs62618693	T	C	NA	NA	0.041	0.0061	1.93E-11	-0.06838	0.042581	0.108315
rs6356	T	C	NA	NA	0.0199	0.0026	2.43E-14	-0.00908	0.018221	0.618297
rs645040	T	G	NA	NA	-0.0691	0.003	9.86E-120	-0.01156	0.020855	0.5793
rs6736913	G	A	NA	NA	-0.0712	0.0089	1.12E-15	-0.06239	0.059873	0.297373
rs6756943	A	G	NA	NA	-0.0448	0.0027	5.62E-61	-0.04132	0.018983	0.029502
rs6954673	T	C	NA	NA	-0.0185	0.0026	1.27E-12	-0.04428	0.018208	0.015024
rs7221345	A	G	NA	NA	-0.0325	0.0026	3.13E-37	-0.0089	0.017841	0.61772
rs7239151	A	G	NA	NA	0.0155	0.0027	6.50E-09	-0.0092	0.018766	0.624028
rs724577	C	A	NA	NA	-0.0186	0.0028	6.04E-11	0.022927	0.019904	0.249355
rs7250351	A	G	NA	NA	0.0229	0.0041	2.17E-08	-0.0278	0.028758	0.333641
rs7250425	T	C	NA	NA	0.0179	0.0025	7.64E-13	0.011914	0.017454	0.494877
rs72683923	C	T	NA	NA	0.0774	0.0092	5.67E-17	-0.0454	0.063072	0.471632
rs72756074	G	A	NA	NA	0.023	0.0038	1.65E-09	0.016589	0.026625	0.533237
rs7314285	G	T	NA	NA	0.0764	0.0048	3.82E-56	-0.01136	0.034788	0.744064
rs738409	G	C	NA	NA	0.0486	0.003	5.06E-58	-0.01398	0.021208	0.50988
rs7429135	G	T	NA	NA	0.0199	0.0034	5.92E-09	0.033432	0.024004	0.163703
rs750472	C	A	NA	NA	-0.0216	0.0025	4.22E-18	0.024473	0.01745	0.160785
rs76610881	G	A	NA	NA	0.0418	0.0041	7.29E-25	-0.02824	0.028044	0.313925
rs7694379	A	G	NA	NA	-0.042	0.0025	4.75E-62	0.036783	0.017637	0.037014
rs7697204	T	C	NA	NA	-0.0295	0.0028	4.24E-25	0.01365	0.020044	0.495877
rs78025076	T	C	NA	NA	0.0503	0.0089	1.62E-08	0.025575	0.060588	0.672943
rs78444298	A	G	NA	NA	-0.0613	0.0093	5.44E-11	0.028472	0.063222	0.65246
rs7922067	A	G	NA	NA	-0.0211	0.0025	1.18E-16	-0.00241	0.017788	0.892303
rs7947951	G	A	NA	NA	-0.0283	0.0027	9.37E-26	0.023058	0.018943	0.223507
rs7994151	G	A	NA	NA	-0.0206	0.0035	2.89E-09	0.020986	0.024318	0.388133
rs8017377	A	G	NA	NA	-0.0342	0.0025	3.92E-42	-0.0082	0.017474	0.639014
rs8023580	C	T	NA	NA	0.073	0.0028	1.52E-150	0.034249	0.019539	0.079625
rs9316500	G	T	NA	NA	-0.0172	0.0027	3.05E-10	0.01171	0.01918	0.541516
rs9332817	C	G	NA	NA	0.05	0.0079	3.09E-10	0.064675	0.053767	0.229026
rs9388768	A	C	NA	NA	-0.0197	0.0027	1.39E-13	-0.0004	0.018594	0.982711
rs9427104	T	C	NA	NA	0.027	0.0025	4.04E-27	0.014845	0.017468	0.395426
rs9556403	G	A	NA	NA	0.0205	0.0026	4.66E-15	-0.0097	0.018275	0.59571
rs9644032	G	T	NA	NA	-0.0159	0.0026	1.03E-09	0.015264	0.018172	0.400912
rs976002	G	A	NA	NA	0.035	0.0029	1.60E-33	0.005158	0.020218	0.798654
rs9892297	G	A	NA	NA	-0.1366	0.0026	1.00E-200	-0.00086	0.018475	0.96286
rs9987289	G	A	NA	NA	0.0437	0.0043	3.22E-24	0.000249	0.030219	0.993415

SNP, single nucleotide polymorphism; AD, Alzheimer's disease; GWAS, genome-wide association studies; NA, not available.

Table S4 SNPs identified in paternal AD GWAS

SNP	effect_allele	other_allele	eaf.exposure	eaf.outcome	beta.exposure	se.exposure	pval.exposure	beta.outcome	se.outcome	pval.outcome
rs10069690	T	C	NA	NA	-0.017	0.0028	2.13E-09	-0.01726	0.027397	0.528738
rs1060817	G	A	NA	NA	-0.0176	0.0025	5.12E-12	0.024213	0.024324	0.319521
rs1076540	T	C	NA	NA	0.0169	0.0029	8.14E-09	0.011428	0.028008	0.683255
rs10838681	A	G	NA	NA	0.0162	0.0028	8.80E-09	0.026146	0.026969	0.33231
rs10871777	G	A	NA	NA	-0.0227	0.0029	8.41E-15	-0.03334	0.02825	0.237888
rs1106766	T	C	NA	NA	0.0357	0.0029	5.41E-34	0.051032	0.027693	0.065361
rs11075253	A	C	NA	NA	0.023	0.0028	6.30E-17	0.034992	0.026121	0.180381
rs11078405	T	G	NA	NA	-0.0293	0.0026	1.40E-29	-0.02072	0.024829	0.404094
rs1126670	A	C	NA	NA	-0.028	0.0027	1.35E-24	0.009118	0.026138	0.727216
rs1128249	T	G	NA	NA	0.0286	0.0026	8.43E-29	0.008612	0.024496	0.725181
rs11550348	A	G	NA	NA	0.0536	0.0038	5.40E-46	-0.02038	0.036599	0.577632
rs116189680	A	G	NA	NA	0.1439	0.0077	6.52E-78	-0.03822	0.074373	0.607307
rs11626364	C	T	NA	NA	0.0237	0.0035	9.61E-12	0.026225	0.033104	0.428235
rs11636917	C	T	NA	NA	-0.0247	0.0026	1.06E-20	0.024139	0.02516	0.337347
rs11647008	C	T	NA	NA	-0.0249	0.0025	6.86E-23	-0.00473	0.023977	0.843495
rs11655704	C	T	NA	NA	0.0785	0.0027	1.30E-189	-0.03368	0.025783	0.191442
rs11739158	T	C	NA	NA	0.0148	0.0025	4.85E-09	0.017594	0.024218	0.467525
rs11748288	G	A	NA	NA	0.0167	0.0025	5.85E-11	0.007204	0.02433	0.76717
rs1183910	A	G	NA	NA	-0.0261	0.0027	6.73E-22	0.001102	0.025978	0.966161
rs11856886	G	A	NA	NA	0.0194	0.0027	1.27E-12	-0.01344	0.026039	0.60573
rs11887329	G	A	NA	NA	-0.0213	0.003	7.13E-13	0.018684	0.028274	0.508715
rs11918018	A	G	NA	NA	-0.0153	0.0025	1.03E-09	0.00342	0.023985	0.88663
rs11935444	C	T	NA	NA	-0.0165	0.0026	4.11E-10	0.016706	0.024238	0.49067
rs12192649	A	G	NA	NA	0.022	0.003	9.97E-14	0.022407	0.027993	0.423448
rs12325400	G	C	NA	NA	-0.016	0.0026	4.03E-10	-0.01461	0.024431	0.549885
rs12414178	T	C	NA	NA	-0.0269	0.0029	5.57E-20	0.020827	0.028237	0.460767
rs12569576	G	A	NA	NA	-0.017	0.0025	1.25E-11	0.037942	0.024032	0.114387
rs12575636	G	T	NA	NA	-0.027	0.0033	1.36E-16	-0.02882	0.030827	0.349909
rs1260326	C	T	NA	NA	0.0772	0.0026	4.58E-198	0.017181	0.024542	0.483903
rs12748152	T	C	NA	NA	-0.0668	0.0046	2.79E-47	-0.05414	0.04449	0.223663
rs13094241	G	T	NA	NA	0.0172	0.0028	1.04E-09	0.027326	0.026971	0.310976
rs13354321	C	T	NA	NA	0.0144	0.0025	1.44E-08	-0.02213	0.024269	0.361757
rs1421085	C	T	NA	NA	-0.0183	0.0026	8.91E-13	0.047446	0.024373	0.051578
rs1497406	G	A	NA	NA	0.027	0.0025	1.56E-26	0.006581	0.024242	0.78604
rs1547014	C	T	NA	NA	-0.0293	0.0027	5.70E-28	0.035575	0.025566	0.164088
rs1556562	T	G	NA	NA	0.0243	0.003	8.54E-16	-0.04309	0.028412	0.129369
rs157934	C	T	NA	NA	0.0229	0.0027	4.25E-17	0.018735	0.025997	0.471124
rs1635852	C	T	NA	NA	0.0187	0.0025	6.54E-14	0.009417	0.023915	0.693744
rs16845803	G	A	NA	NA	-0.0251	0.0037	1.08E-11	0.041381	0.035293	0.240993
rs17041868	C	T	NA	NA	-0.0346	0.005	6.49E-12	-0.00603	0.049011	0.902105
rs1716403	C	T	NA	NA	-0.0168	0.0027	3.75E-10	-0.02929	0.025578	0.252107
rs17202341	G	A	NA	NA	0.0157	0.0026	2.86E-09	0.000678	0.025102	0.978446
rs17377148	G	T	NA	NA	0.0401	0.0048	1.13E-16	-0.06589	0.045992	0.151978
rs174601	T	C	NA	NA	-0.0252	0.0026	1.80E-22	0.036673	0.024675	0.137216
rs1755618	T	G	NA	NA	-0.0252	0.0035	1.17E-12	-0.03087	0.03465	0.373031
rs17580	A	T	NA	NA	0.0535	0.0059	1.54E-19	0.074347	0.054619	0.173454
rs17628931	C	T	NA	NA	0.0294	0.0041	4.71E-13	-0.00498	0.038533	0.897123
rs1772183	A	G	NA	NA	-0.022	0.0025	1.30E-18	0.023934	0.023945	0.317534
rs17794619	A	G	NA	NA	-0.0347	0.0037	3.61E-21	-0.03372	0.034832	0.333041
rs17826544	G	A	NA	NA	0.029	0.0026	3.87E-29	0.014959	0.024578	0.542785
rs1801282	G	C	NA	NA	0.0377	0.0039	1.41E-22	-0.01791	0.036891	0.627365
rs1801689	C	A	NA	NA	-0.0912	0.0074	6.69E-35	0.039955	0.070165	0.569054
rs1832007	G	A	NA	NA	-0.0483	0.0035	3.66E-43	0.034156	0.03291	0.299334
rs1935	G	C	NA	NA	0.1198	0.0025	1.00E-200	-0.03211	0.024014	0.181224
rs1982151	G	A	NA	NA	-0.049	0.0028	9.23E-67	-0.02417	0.027408	0.377795
rs2081687	C	T	NA	NA	0.0247	0.0026	1.03E-20	0.019819	0.02537	0.43468
rs2205262	A	C	NA	NA	-0.0167	0.0025	4.00E-11	0.002921	0.024182	0.903857
rs2254069	A	G	NA	NA	-0.0265	0.0038	2.11E-12	0.016988	0.036768	0.644051
rs2266782	A	G	NA	NA	-0.0163	0.0025	1.25E-10	-0.00945	0.024251	0.696659
rs2335077	G	A	NA	NA	0.0463	0.0026	1.71E-69	0.02181	0.02513	0.385439
rs2427530	A	G	NA	NA	0.0194	0.0029	2.99E-11	-0.01379	0.027853	0.620633
rs2487826	C	T	NA	NA	0.0176	0.0025	3.56E-12	-0.01498	0.024285	0.537404
rs2537855	G	A	NA	NA	0.0447	0.0028	3.56E-59	0.011132	0.026458	0.673933
rs2618566	T	G	NA	NA	-0.0171	0.0026	8.57E-11	0.003685	0.025268	0.884057
rs2642420	A	C	NA	NA	-0.0247	0.0033	9.54E-14	-0.0221	0.031722	0.485938
rs2836950	G	C	NA	NA	-0.0154	0.0026	3.64E-09	-0.02417	0.025063	0.334947
rs2860075	G	A	NA	NA	-0.0289	0.0026	1.40E-28	0.009192	0.024991	0.713009
rs28925904	T	C	NA	NA	-0.0576	0.0081	1.49E-12	0.148139	0.074298	0.04617
rs28929474	T	C	NA	NA	0.219	0.0091	5.87E-129	-0.06488	0.085376	0.447262
rs2943641	C	T	NA	NA	-0.0322	0.0026	6.16E-35	-0.00914	0.025032	0.715124
rs3132469	G	A	NA	NA	-0.033	0.0035	8.29E-21	-0.00655	0.033507	0.845024

Table S4 (continued)

Table S4 (continued)

SNP	effect_allele	other_allele	eaf.exposure	eaf.outcome	beta.exposure	se.exposure	pval.exposure	beta.outcome	se.outcome	pval.outcome
rs34145453	G	A	NA	NA	0.0189	0.0026	2.90E-13	-0.00726	0.024863	0.770353
rs34372369	A	G	NA	NA	0.037	0.0057	6.20E-11	-0.14677	0.056158	0.00896
rs35371479	T	C	NA	NA	0.0256	0.0033	7.00E-15	-0.03178	0.031314	0.310106
rs35627524	G	T	NA	NA	-0.0433	0.0067	1.09E-10	0.009379	0.06397	0.883439
rs3749237	A	G	NA	NA	-0.0257	0.0027	8.87E-22	0.022343	0.025506	0.381048
rs3779195	A	T	NA	NA	-0.0768	0.0032	2.35E-126	0.010341	0.030714	0.736358
rs3818247	T	G	NA	NA	-0.0247	0.0026	2.95E-21	0.015571	0.024915	0.53199
rs3848375	T	C	NA	NA	0.0231	0.0032	3.11E-13	-0.02232	0.030155	0.459143
rs41302867	A	G	NA	NA	-0.0342	0.0039	8.26E-19	-0.02121	0.036611	0.562456
rs4149056	C	T	NA	NA	-0.067	0.0035	9.39E-81	-0.03428	0.033676	0.30874
rs4381968	T	C	NA	NA	-0.0138	0.0025	4.23E-08	0.011557	0.024151	0.632273
rs440837	G	A	NA	NA	0.0466	0.0031	1.16E-50	-0.01537	0.029872	0.606892
rs45512696	T	C	NA	NA	0.0407	0.0033	2.72E-34	0.020937	0.031422	0.505199
rs45535039	C	T	NA	NA	0.0204	0.0028	3.34E-13	-0.05577	0.027105	0.039642
rs4639796	A	G	NA	NA	-0.0296	0.0034	3.23E-18	-0.00825	0.032714	0.800969
rs464605	T	C	NA	NA	-0.0323	0.0029	1.25E-29	0.045261	0.027593	0.100939
rs4660293	G	A	NA	NA	-0.0295	0.003	5.90E-23	0.002038	0.028232	0.942459
rs4690098	T	C	NA	NA	-0.0498	0.003	1.01E-61	-0.02998	0.028826	0.298342
rs4822455	T	C	NA	NA	-0.0184	0.0025	3.48E-13	-0.03383	0.024229	0.162612
rs4983559	A	G	NA	NA	-0.0179	0.0026	2.85E-12	-0.02573	0.024624	0.296063
rs555754	A	G	NA	NA	0.0343	0.0025	5.02E-42	0.037596	0.024003	0.117276
rs55707100	T	C	NA	NA	-0.1171	0.0081	1.76E-47	-0.03056	0.07737	0.692872
rs55840085	A	G	NA	NA	0.0195	0.0026	6.35E-14	0.00406	0.024955	0.870755
rs56196860	A	C	NA	NA	0.0478	0.0073	5.01E-11	-0.01378	0.068707	0.841072
rs5745687	T	C	NA	NA	0.0307	0.0051	2.07E-09	0.022354	0.048347	0.643816
rs57506806	G	A	NA	NA	0.0351	0.003	2.25E-32	-0.03413	0.028525	0.23155
rs58941251	T	C	NA	NA	-0.0241	0.0041	2.74E-09	-0.04286	0.038827	0.269696
rs6129800	A	G	NA	NA	0.0239	0.003	1.35E-15	-0.03177	0.028835	0.270503
rs61935507	T	C	NA	NA	-0.0295	0.0037	1.50E-15	-0.0216	0.035301	0.540645
rs62576339	C	T	NA	NA	0.03	0.0029	8.22E-25	-0.00374	0.028104	0.894238
rs62580767	C	T	NA	NA	0.0234	0.0033	8.54E-13	0.002738	0.031014	0.929657
rs62618693	T	C	NA	NA	0.041	0.0061	1.93E-11	0.089546	0.056422	0.112498
rs6356	T	C	NA	NA	0.0199	0.0026	2.43E-14	-0.00107	0.024953	0.965692
rs645040	T	G	NA	NA	-0.0691	0.003	9.86E-120	0.032156	0.028717	0.26281
rs6736913	G	A	NA	NA	-0.0712	0.0089	1.12E-15	-0.08076	0.081646	0.322598
rs6756943	A	G	NA	NA	-0.0448	0.0027	5.62E-61	-0.00496	0.026105	0.849376
rs6954673	T	C	NA	NA	-0.0185	0.0026	1.27E-12	0.013553	0.024893	0.586123
rs7221345	A	G	NA	NA	-0.0325	0.0026	3.13E-37	0.005746	0.02446	0.81427
rs7239151	A	G	NA	NA	0.0155	0.0027	6.50E-09	0.01719	0.025767	0.504677
rs724577	C	A	NA	NA	-0.0186	0.0028	6.04E-11	0.023265	0.027271	0.393603
rs7250351	A	G	NA	NA	0.0229	0.0041	2.17E-08	0.018732	0.039663	0.636724
rs7250425	T	C	NA	NA	0.0179	0.0025	7.64E-13	-0.00779	0.023925	0.744589
rs72683923	C	T	NA	NA	0.0774	0.0092	5.67E-17	-0.15275	0.088591	0.084679
rs72756074	G	A	NA	NA	0.023	0.0038	1.65E-09	0.017928	0.036502	0.623319
rs7314285	G	T	NA	NA	0.0764	0.0048	3.82E-56	0.039957	0.047256	0.397809
rs738409	G	C	NA	NA	0.0486	0.003	5.06E-58	-0.02489	0.029092	0.392318
rs7429135	G	T	NA	NA	0.0199	0.0034	5.92E-09	-0.01008	0.032709	0.757907
rs750472	C	A	NA	NA	-0.0216	0.0025	4.22E-18	-0.00383	0.023932	0.872961
rs76610881	G	A	NA	NA	0.0418	0.0041	7.29E-25	-0.03675	0.038569	0.340643
rs7694379	A	G	NA	NA	-0.042	0.0025	4.75E-62	-0.03434	0.024209	0.156057
rs7697204	T	C	NA	NA	-0.0295	0.0028	4.24E-25	-0.01931	0.027393	0.480888
rs78025076	T	C	NA	NA	0.0503	0.0089	1.62E-08	0.056965	0.082557	0.49019
rs78444298	A	G	NA	NA	-0.0613	0.0093	5.44E-11	-0.02181	0.087354	0.802838
rs7922067	A	G	NA	NA	-0.0211	0.0025	1.18E-16	0.005266	0.024388	0.829037
rs7947951	G	A	NA	NA	-0.0283	0.0027	9.37E-26	0.03278	0.025974	0.206929
rs7994151	G	A	NA	NA	-0.0206	0.0035	2.89E-09	-0.00099	0.033438	0.976361
rs8017377	A	G	NA	NA	-0.0342	0.0025	3.92E-42	-0.0229	0.023948	0.339014
rs8023580	C	T	NA	NA	0.073	0.0028	1.52E-150	0.016433	0.026841	0.540377
rs9316500	G	T	NA	NA	-0.0172	0.0027	3.05E-10	-0.00653	0.026328	0.803995
rs9332817	C	G	NA	NA	0.05	0.0079	3.09E-10	0.017483	0.074191	0.8137
rs9388768	A	C	NA	NA	-0.0197	0.0027	1.39E-13	-0.01245	0.025453	0.624764
rs9427104	T	C	NA	NA	0.027	0.0025	4.04E-27	0.007817	0.023958	0.744205
rs9556403	G	A	NA	NA	0.0205	0.0026	4.66E-15	0.007567	0.025027	0.762388
rs9644032	G	T	NA	NA	-0.0159	0.0026	1.03E-09	-0.02142	0.024853	0.388697
rs976002	G	A	NA	NA	0.035	0.0029	1.60E-33	-0.01877	0.027792	0.499477
rs9892297	G	A	NA	NA	-0.1366	0.0026	1.00E-200	0.007712	0.025278	0.7603
rs9987289	G	A	NA	NA	0.0437	0.0043	3.22E-24	0.013842	0.041485	0.738632

SNP, single nucleotide polymorphism; AD, Alzheimer's disease; GWAS, genome-wide association studies; NA, not available.

Table S5 (continued)

SNP	effect_allele	other_allele	eaf.exposure	eaf.outcome	beta.exposure	se.exposure	pval.exposure	beta.outcome	se.outcome	pval.outcome	samplesize
rs3132469	G	A	NA	0.8678	-0.033	0.0035	8.29E-21	-0.0135	0.0208	0.5166	80610
rs34145453	G	A	NA	0.3681	0.0189	0.0026	2.90E-13	0.0215	0.0142	0.132	80610
rs34372369	A	G	NA	0.0575	0.037	0.0057	6.20E-11	0.0027	0.0299	0.9274	80610
rs35371479	T	C	NA	0.1843	0.0256	0.0033	7.00E-15	-0.0213	0.0176	0.2253	80610
rs35386490	C	T	NA	0.2041	0.1118	0.003	1.00E-200	0.0308	0.0192	0.1088	80610
rs35627524	G	T	NA	0.042	-0.0433	0.0067	1.09E-10	-4.00E-04	0.0357	0.99	80610
rs3749237	A	G	NA	0.3071	-0.0257	0.0027	8.87E-22	0.0374	0.0147	0.01085	80610
rs3779195	A	T	NA	0.1787	-0.0768	0.0032	2.35E-126	-8.00E-04	0.0182	0.9654	80610
rs3818247	T	G	NA	0.3415	-0.0247	0.0026	2.95E-21	0.012	0.015	0.4266	80610
rs3848375	T	C	NA	0.7996	0.0231	0.0032	3.11E-13	-0.0218	0.0193	0.258	80610
rs41302867	A	G	NA	0.1234	-0.0342	0.0039	8.26E-19	0.0284	0.0217	0.1906	80610
rs4149056	C	T	NA	0.1574	-0.067	0.0035	9.39E-81	-2.00E-04	0.0187	0.9929	80610
rs4381968	T	C	NA	0.5417	-0.0138	0.0025	4.23E-08	-0.0165	0.0139	0.2338	80610
rs440837	G	A	NA	0.2285	0.0466	0.0031	1.16E-50	0.0124	0.0161	0.4428	80610
rs45512696	T	C	NA	0.1579	0.0407	0.0033	2.72E-34	-5.00E-04	0.019	0.9796	80610
rs45535039	C	T	NA	0.2859	0.0204	0.0028	3.34E-13	-0.0213	0.0151	0.1592	80610
rs4639796	A	G	NA	0.1608	-0.0296	0.0034	3.23E-18	0.0295	0.0184	0.1099	80610
rs464605	T	C	NA	0.74	-0.0323	0.0029	1.25E-29	-0.0296	0.0157	0.05913	80610
rs4660293	G	A	NA	0.2341	-0.0295	0.003	5.90E-23	0.0135	0.0163	0.4074	80610
rs4690098	T	C	NA	0.2358	-0.0498	0.003	1.01E-61	0.0033	0.017	0.8464	80610
rs4822455	T	C	NA	0.577	-0.0184	0.0025	3.48E-13	-0.0056	0.0138	0.6832	80610
rs4983559	A	G	NA	0.5156	-0.0179	0.0026	2.85E-12	0.0025	0.014	0.8582	80610
rs555754	A	G	NA	0.4872	0.0343	0.0025	5.02E-42	-0.0074	0.0136	0.5886	80610
rs55707100	T	C	NA	0.0327	-0.1171	0.0081	1.76E-47	-0.0387	0.0411	0.3472	80610
rs55840085	A	G	NA	0.3617	0.0195	0.0026	6.35E-14	-0.0135	0.0144	0.3499	80610
rs56196860	A	C	NA	0.0321	0.0478	0.0073	5.01E-11	-0.1333	0.0489	0.00643	80610
rs5745687	T	C	NA	0.0667	0.0307	0.0051	2.07E-09	-0.0418	0.0282	0.1388	80610
rs57506806	G	A	NA	0.2263	0.0351	0.003	2.25E-32	-0.0037	0.0169	0.8271	80610
rs58941251	T	C	NA	0.1048	-0.0241	0.0041	2.74E-09	-0.0031	0.0225	0.8886	80610
rs6129800	A	G	NA	0.2181	0.0239	0.003	1.35E-15	0.0088	0.0169	0.6014	80610
rs61935507	T	C	NA	0.1415	-0.0295	0.0037	1.50E-15	-0.008	0.0205	0.6967	80610
rs62576339	C	T	NA	0.2438	0.03	0.0029	8.22E-25	0.0091	0.0161	0.5701	80610
rs62580767	C	T	NA	0.182	0.0234	0.0033	8.54E-13	0.0222	0.0178	0.2133	80610
rs62618693	T	C	NA	0.0417	0.041	0.0061	1.93E-11	0.0146	0.0363	0.6865	80610
rs6356	T	C	NA	0.378	0.0199	0.0026	2.43E-14	-0.0244	0.0149	0.1014	80610
rs645040	T	G	NA	0.7743	-0.0691	0.003	9.86E-120	-0.0089	0.0163	0.5845	80610
rs6736913	G	A	NA	0.9829	-0.0712	0.0089	1.12E-15	0.0978	0.0587	0.09571	80610
rs6756943	A	G	NA	0.6988	-0.0448	0.0027	5.62E-61	-5.00E-04	0.0149	0.9738	80610
rs6954673	T	C	NA	0.3421	-0.0185	0.0026	1.27E-12	-0.0089	0.0142	0.5297	80610
rs7221345	A	G	NA	0.6023	-0.0325	0.0026	3.13E-37	-0.023	0.0139	0.09781	80610
rs7239151	A	G	NA	0.7041	0.0155	0.0027	6.50E-09	0.0113	0.0149	0.4479	80610
rs724577	C	A	NA	0.7392	-0.0186	0.0028	6.04E-11	-0.0227	0.0154	0.141	80610
rs7250351	A	G	NA	0.8758	0.0229	0.0041	2.17E-08	-0.0038	0.0242	0.8753	80610
rs7250425	T	C	NA	0.4991	0.0179	0.0025	7.64E-13	-0.0061	0.0136	0.6538	80610
rs72683923	C	T	NA	0.0208	0.0774	0.0092	5.67E-17	-0.0038	0.0554	0.9449	80610
rs72756074	G	A	NA	0.1168	0.023	0.0038	1.65E-09	-0.0152	0.0226	0.5019	80610
rs7314285	G	T	NA	0.0728	0.0764	0.0048	3.82E-56	0.0275	0.0261	0.293	80610
rs738409	G	C	NA	0.233	0.0486	0.003	5.06E-58	-0.0238	0.0163	0.1451	80610
rs7429135	G	T	NA	0.8374	0.0199	0.0034	5.92E-09	-0.0047	0.0184	0.7962	80610
rs750472	C	A	NA	0.496	-0.0216	0.0025	4.22E-18	0.0045	0.0137	0.7431	80610
rs76610881	G	A	NA	0.0944	0.0418	0.0041	7.29E-25	-0.0192	0.0249	0.4411	80610
rs7694379	A	G	NA	0.4182	-0.042	0.0025	4.75E-62	0.0108	0.0138	0.4327	80610
rs7697204	T	C	NA	0.7338	-0.0295	0.0028	4.24E-25	-0.006	0.0155	0.6961	80610
rs78025076	T	C	NA	0.0235	0.0503	0.0089	1.62E-08	0.02	0.0572	0.727	80610
rs78444298	A	G	NA	0.0189	-0.0613	0.0093	5.44E-11	-0.0723	0.0597	0.2258	80610
rs7922067	A	G	NA	0.5118	-0.0211	0.0025	1.18E-16	-0.04	0.0137	0.003538	80610
rs7947951	G	A	NA	0.681	-0.0283	0.0027	9.37E-26	0.0028	0.0147	0.8503	80610
rs7994151	G	A	NA	0.1515	-0.0206	0.0035	2.89E-09	0.0372	0.0189	0.04937	80610
rs8017377	A	G	NA	0.47	-0.0342	0.0025	3.92E-42	-0.013	0.0136	0.3362	80610
rs8023580	C	T	NA	0.2948	0.073	0.0028	1.52E-150	0.0184	0.0153	0.2293	80610
rs9316500	G	T	NA	0.3059	-0.0172	0.0027	3.05E-10	0.0224	0.0147	0.1279	80610
rs9332817	C	G	NA	0.026	0.05	0.0079	3.09E-10	0.0354	0.0483	0.4635	80610
rs9388768	A	C	NA	0.6737	-0.0197	0.0027	1.39E-13	0.0082	0.0144	0.5696	80610
rs9427104	T	C	NA	0.4756	0.027	0.0025	4.04E-27	-0.0146	0.0136	0.2829	80610
rs9556403	G	A	NA	0.3616	0.0205	0.0026	4.66E-15	-0.0111	0.0142	0.4327	80610
rs9644032	G	T	NA	0.6264	-0.0159	0.0026	1.03E-09	-0.0125	0.014	0.3727	80610
rs976002	G	A	NA	0.2285	0.035	0.0029	1.60E-33	0.0533	0.0202	0.008376	80610
rs9892297	G	A	NA	0.3183	-0.1366	0.0026	1.00E-200	-0.0399	0.0149	0.00745	80610
rs9987289	G	A	NA	0.9151	0.0437	0.0043	3.22E-24	-0.0227	0.0246	0.3575	80610

SNP, single nucleotide polymorphism; ALS, amyotrophic lateral sclerosis; GWAS, genome-wide association studies; NA, not available.

Table S6 (continued)

SNP	effect_allele	other_allele	eaf.exposure	eaf.outcome	beta.exposure	se.exposure	pval.exposure	beta.outcome	se.outcome	pval.outcome	samplesize
rs34145453	G	A	NA	0.3663	0.0189	0.0026	2.90E-13	0.0204	0.0181	0.2579	482730
rs34372369	A	G	NA	0.0538	0.037	0.0057	6.20E-11	-0.0423	0.038	0.2657	482730
rs35371479	T	C	NA	0.1823	0.0256	0.0033	7.00E-15	0.0013	0.0219	0.9532	482730
rs35627524	G	T	NA	0.041	-0.0433	0.0067	1.09E-10	0.1131	0.0589	0.05491	468692
rs3749237	A	G	NA	0.3056	-0.0257	0.0027	8.87E-22	0.0032	0.0187	0.8634	482730
rs3779195	A	T	NA	0.1769	-0.0768	0.0032	2.35E-126	-0.0101	0.0289	0.7277	469486
rs3818247	T	G	NA	0.3454	-0.0247	0.0026	2.95E-21	-0.0074	0.0246	0.7634	468692
rs3848375	T	C	NA	0.8161	0.0231	0.0032	3.11E-13	0.0302	0.0288	0.2947	470485
rs41302867	A	G	NA	0.1283	-0.0342	0.0039	8.26E-19	-0.0614	0.0281	0.02862	480593
rs4149056	C	T	NA	0.1568	-0.067	0.0035	9.39E-81	-2.00E-04	0.0231	0.9915	482730
rs4381968	T	C	NA	0.5561	-0.0138	0.0025	4.23E-08	0.0479	0.0226	0.03398	468692
rs440837	G	A	NA	0.2243	0.0466	0.0031	1.16E-50	0.0121	0.0227	0.5942	482730
rs45512696	T	C	NA	0.162	0.0407	0.0033	2.72E-34	0.0081	0.0305	0.7921	468692
rs45535039	C	T	NA	0.2844	0.0204	0.0028	3.34E-13	-0.0097	0.0189	0.6086	482730
rs4639796	A	G	NA	0.1593	-0.0296	0.0034	3.23E-18	-0.0072	0.0231	0.7557	482730
rs464605	T	C	NA	0.7392	-0.0323	0.0029	1.25E-29	-0.0216	0.0239	0.3653	471013
rs4660293	G	A	NA	0.2343	-0.0295	0.003	5.90E-23	0.002	0.0199	0.9188	482730
rs4690098	T	C	NA	0.2325	-0.0498	0.003	1.01E-61	0.0279	0.0256	0.2764	27693
rs4822455	T	C	NA	0.5782	-0.0184	0.0025	3.48E-13	-0.0035	0.017	0.8361	482730
rs4983559	A	G	NA	0.6129	-0.0179	0.0026	2.85E-12	0.0058	0.0177	0.7419	482730
rs555754	A	G	NA	0.4866	0.0343	0.0025	5.02E-42	-0.0083	0.0177	0.6395	482730
rs55707100	T	C	NA	0.0329	-0.1171	0.0081	1.76E-47	0.0011	0.0477	0.9814	482730
rs55840085	A	G	NA	0.3526	0.0195	0.0026	6.35E-14	0.0242	0.0234	0.2991	468692
rs56196860	A	C	NA	0.0298	0.0478	0.0073	5.01E-11	0.0207	0.0769	0.7873	468692
rs5745687	T	C	NA	0.0664	0.0307	0.0051	2.07E-09	0.0087	0.0343	0.8006	482730
rs57506806	G	A	NA	0.2287	0.0351	0.003	2.25E-32	0.0066	0.0235	0.7797	482730
rs58941251	T	C	NA	0.1032	-0.0241	0.0041	2.74E-09	0.05	0.0313	0.1109	482730
rs6129800	A	G	NA	0.2198	0.0239	0.003	1.35E-15	0.0122	0.0211	0.5628	482730
rs61935507	T	C	NA	0.1351	-0.0295	0.0037	1.50E-15	-0.0535	0.0333	0.1087	468692
rs62576339	C	T	NA	0.2525	0.03	0.0029	8.22E-25	0.0421	0.0224	0.0603	482730
rs62580767	C	T	NA	0.1771	0.0234	0.0033	8.54E-13	0.0121	0.0291	0.6788	469691
rs62618693	T	C	NA	0.0409	0.041	0.0061	1.93E-11	8.00E-04	0.0444	0.9851	482730
rs6356	T	C	NA	0.3693	0.0199	0.0026	2.43E-14	-0.0532	0.0192	0.00548	482730
rs645040	T	G	NA	0.7687	-0.0691	0.003	9.86E-120	0.0149	0.0199	0.4552	482730
rs6736913	G	A	NA	0.9819	-0.0712	0.0089	1.12E-15	-0.0474	0.0667	0.4767	482730
rs6756943	A	G	NA	0.7016	-0.0448	0.0027	5.62E-61	-0.018	0.0243	0.4602	468692
rs6954673	T	C	NA	0.3485	-0.0185	0.0026	1.27E-12	-0.0232	0.0176	0.1875	482730
rs7221345	A	G	NA	0.6011	-0.0325	0.0026	3.13E-37	-0.0342	0.0177	0.05283	482730
rs7239151	A	G	NA	0.6978	0.0155	0.0027	6.50E-09	0.0223	0.0206	0.278	482730
rs724577	C	A	NA	0.7368	-0.0186	0.0028	6.04E-11	-0.0017	0.0193	0.9288	482730
rs7250351	A	G	NA	0.8885	0.0229	0.0041	2.17E-08	0.0508	0.0291	0.08128	482730
rs7250425	T	C	NA	0.5031	0.0179	0.0025	7.64E-13	0.0211	0.0186	0.2565	482730
rs72683923	C	T	NA	0.0168	0.0774	0.0092	5.67E-17	0.0608	0.0764	0.4257	482730
rs72756074	G	A	NA	0.1196	0.023	0.0038	1.65E-09	0.055	0.0273	0.04429	482730
rs7314285	G	T	NA	0.069	0.0764	0.0048	3.82E-56	0.0029	0.0382	0.9397	480937
rs738409	G	C	NA	0.2306	0.0486	0.003	5.06E-58	-0.0088	0.02	0.6613	482730
rs7429135	G	T	NA	0.8394	0.0199	0.0034	5.92E-09	-0.0302	0.0246	0.2196	482730
rs750472	C	A	NA	0.5031	-0.0216	0.0025	4.22E-18	0.0226	0.0176	0.1992	482730
rs76610881	G	A	NA	0.097	0.0418	0.0041	7.29E-25	-0.0251	0.0347	0.4692	482730
rs7694379	A	G	NA	0.4194	-0.042	0.0025	4.75E-62	-0.0261	0.0191	0.1721	482730
rs7697204	T	C	NA	0.7344	-0.0295	0.0028	4.24E-25	-0.0287	0.0225	0.2038	482730
rs78025076	T	C	NA	0.0203	0.0503	0.0089	1.62E-08	0.095	0.0866	0.2726	468692
rs78444298	A	G	NA	0.0159	-0.0613	0.0093	5.44E-11	0.2158	0.0795	0.006635	27693
rs7922067	A	G	NA	0.5802	-0.0211	0.0025	1.18E-16	0.0034	0.0185	0.8538	482730
rs7947951	G	A	NA	0.6843	-0.0283	0.0027	9.37E-26	0.0205	0.0213	0.3346	482730
rs7994151	G	A	NA	0.1531	-0.0206	0.0035	2.89E-09	-0.0677	0.0311	0.0294	468692
rs8017377	A	G	NA	0.4707	-0.0342	0.0025	3.92E-42	8.00E-04	0.0168	0.9621	482730
rs8023580	C	T	NA	0.2936	0.073	0.0028	1.52E-150	-0.0401	0.0245	0.1023	468692
rs9316500	G	T	NA	0.3028	-0.0172	0.0027	3.05E-10	-0.006	0.0182	0.7397	482730
rs9332817	C	G	NA	0.0269	0.05	0.0079	3.09E-10	-0.0445	0.0663	0.5019	480593
rs9388768	A	C	NA	0.6733	-0.0197	0.0027	1.39E-13	0.0177	0.0179	0.3227	482730
rs9427104	T	C	NA	0.4771	0.027	0.0025	4.04E-27	0.0289	0.0181	0.1101	482730
rs9556403	G	A	NA	0.361	0.0205	0.0026	4.66E-15	0.0043	0.0231	0.8529	468692
rs9644032	G	T	NA	0.62	-0.0159	0.0026	1.03E-09	-0.0081	0.0179	0.6495	482730
rs976002	G	A	NA	0.2222	0.035	0.0029	1.60E-33	0.0099	0.0212	0.6421	480593
rs9892297	G	A	NA	0.3233	-0.1366	0.0026	1.00E-200	0.0377	0.0182	0.0387	482730
rs9987289	G	A	NA	0.9115	0.0437	0.0043	3.22E-24	0.0615	0.031	0.04728	482730

SNP, single nucleotide polymorphism; PD, Parkinson's disease; GWAS, genome-wide association studies; NA, not available.

Table S7 (continued)

SNP	effect_allele	other_allele	eaf.exposure	eaf.outcome	beta.exposure	se.exposure	pval.exposure	beta.outcome	se.outcome	pval.outcome	samplesize
rs3132469	G	A	NA	0.94089	-0.033	0.0035	8.29E-21	-0.57501	0.021592	2.99E-156	115000
rs34145453	G	A	NA	0.4491	0.0189	0.0026	2.90E-13	-0.03237	0.018158	0.07463	115000
rs34372369	A	G	NA	0.0313	0.037	0.0057	6.20E-11	0.039157	0.039858	0.3259	115000
rs35371479	T	C	NA	0.0613	0.0256	0.0033	7.00E-15	-0.02557	0.020748	0.2178	115000
rs35386490	C	T	NA	0.0557	0.1118	0.003	1.00E-200	-0.06194	0.026522	0.01952	115000
rs3749237	A	G	NA	0.2384	-0.0257	0.0027	8.87E-22	0.024293	0.017463	0.1642	115000
rs3779195	A	T	NA	0.1991	-0.0768	0.0032	2.35E-126	-0.0008	0.022559	0.9717	115000
rs3818247	T	G	NA	0.4934	-0.0247	0.0026	2.95E-21	-0.0013	0.024468	0.9576	115000
rs3848375	T	C	NA	0.6448	0.0231	0.0032	3.11E-13	-0.01593	0.020925	0.4466	115000
rs41302867	A	G	NA	0.0469	-0.0342	0.0039	8.26E-19	-0.08149	0.029371	0.00553	115000
rs4149056	C	T	NA	0.0877	-0.067	0.0035	9.39E-81	0.019591	0.022269	0.379	115000
rs4381968	T	C	NA	0.6625	-0.0138	0.0025	4.23E-08	-0.00763	0.016644	0.6467	115000
rs440837	G	A	NA	0.4093	0.0466	0.0031	1.16E-50	0.030872	0.019824	0.1194	115000
rs45512696	T	C	NA	0.0645	0.0407	0.0033	2.72E-34	0.008563	0.0221	0.6984	115000
rs45535039	C	T	NA	0.3844	0.0204	0.0028	3.34E-13	0.005883	0.018029	0.7442	115000
rs4639796	A	G	NA	0.2973	-0.0296	0.0034	3.23E-18	0.01552	0.021789	0.4763	115000
rs464605	T	C	NA	0.6064	-0.0323	0.0029	1.25E-29	-0.01349	0.01877	0.4723	115000
rs4660293	G	A	NA	0.0962	-0.0295	0.003	5.90E-23	0.038949	0.018849	0.03879	115000
rs4690098	T	C	NA	0.2159	-0.0498	0.003	1.01E-61	0.017742	0.019944	0.3737	115000
rs4822455	T	C	NA	0.516	-0.0184	0.0025	3.48E-13	-0.00995	0.016542	0.5475	115000
rs4983559	A	G	NA	0.4046	-0.0179	0.0026	2.85E-12	0.01005	0.017213	0.5593	115000
rs555754	A	G	NA	0.4301	0.0343	0.0025	5.02E-42	-0.0008	0.01567	0.9593	115000
rs55707100	T	C	NA	0.0098	-0.1171	0.0081	1.76E-47	-0.02567	0.123762	0.8357	115000
rs55840085	A	G	NA	0.4069	0.0195	0.0026	6.35E-14	0.011237	0.017716	0.5259	115000
rs5745687	T	C	NA	0.0198	0.0307	0.0051	2.07E-09	0.066247	0.033149	0.04567	115000
rs57506806	G	A	NA	0.1567	0.0351	0.003	2.25E-32	0.025933	0.021977	0.238	115000
rs58941251	T	C	NA	0.0787	-0.0241	0.0041	2.74E-09	0.029326	0.026057	0.2604	115000
rs6129800	A	G	NA	0.3742	0.0239	0.003	1.35E-15	-0.05685	0.019756	0.004006	115000
rs61935507	T	C	NA	0.0909	-0.0295	0.0037	1.50E-15	-0.02235	0.024359	0.3589	115000
rs62576339	C	T	NA	0.2917	0.03	0.0029	8.22E-25	-0.00588	0.019117	0.7583	115000
rs62580767	C	T	NA	0.0769	0.0234	0.0033	8.54E-13	0.017044	0.021264	0.4228	115000
rs62618693	T	C	NA	0.0106	0.041	0.0061	1.93E-11	0.156069	0.097736	0.1103	115000
rs6356	T	C	NA	0.4305	0.0199	0.0026	2.43E-14	0.005385	0.017906	0.7636	115000
rs645040	T	G	NA	0.7638	-0.0691	0.003	9.86E-120	0.009142	0.019693	0.6425	115000
rs6736913	G	A	NA	0.996206	-0.0712	0.0089	1.12E-15	0.276115	0.308195	0.3703	115000
rs6756943	A	G	NA	0.7354	-0.0448	0.0027	5.62E-61	0.009041	0.017844	0.6124	115000
rs6954673	T	C	NA	0.3175	-0.0185	0.0026	1.27E-12	-0.00783	0.017058	0.6462	115000
rs7221345	A	G	NA	0.5445	-0.0325	0.0026	3.13E-37	-0.07775	0.017103	5.48E-06	115000
rs7239151	A	G	NA	0.5505	0.0155	0.0027	6.50E-09	-0.00411	0.018045	0.8199	115000
rs724577	C	A	NA	0.6855	-0.0186	0.0028	6.04E-11	0.037199	0.018332	0.04244	115000
rs7250351	A	G	NA	0.6558	0.0229	0.0041	2.17E-08	0.019607	0.037667	0.6027	115000
rs7250425	T	C	NA	0.5821	0.0179	0.0025	7.64E-13	0.058159	0.016587	0.000454	115000
rs72756074	G	A	NA	0.11	0.023	0.0038	1.65E-09	0.012376	0.025248	0.624	115000
rs7314285	G	T	NA	0.2526	0.0764	0.0048	3.82E-56	0.041135	0.034188	0.2289	115000
rs738409	G	C	NA	0.2622	0.0486	0.003	5.06E-58	0.013896	0.019634	0.4791	115000
rs7429135	G	T	NA	0.7742	0.0199	0.0034	5.92E-09	-0.02153	0.022148	0.331	115000
rs750472	C	A	NA	0.4443	-0.0216	0.0025	4.22E-18	-0.00521	0.017237	0.7623	115000
rs76610881	G	A	NA	0.031	0.0418	0.0041	7.29E-25	0.100262	0.04966	0.04349	115000
rs7694379	A	G	NA	0.3554	-0.042	0.0025	4.75E-62	0.005716	0.016405	0.7275	115000
rs7697204	T	C	NA	0.6226	-0.0295	0.0028	4.24E-25	-0.01918	0.018639	0.3034	115000
rs7922067	A	G	NA	0.2849	-0.0211	0.0025	1.18E-16	-0.0283	0.016893	0.09393	115000
rs7947951	G	A	NA	0.6014	-0.0283	0.0027	9.37E-26	-0.00558	0.017439	0.7488	115000
rs7994151	G	A	NA	0.2198	-0.0206	0.0035	2.89E-09	0.023781	0.022788	0.2967	115000
rs8017377	A	G	NA	0.2444	-0.0342	0.0025	3.92E-42	0.032213	0.01667	0.05331	115000
rs8023580	C	T	NA	0.3125	0.073	0.0028	1.52E-150	0.034695	0.018596	0.06208	115000
rs9316500	G	T	NA	0.3375	-0.0172	0.0027	3.05E-10	0.010353	0.017836	0.5616	115000
rs9332817	C	G	NA	0.0114	0.05	0.0079	3.09E-10	0.04877	0.116925	0.6766	115000
rs9388768	A	C	NA	0.504	-0.0197	0.0027	1.39E-13	0.050883	0.017461	0.003567	115000
rs9427104	T	C	NA	0.3958	0.027	0.0025	4.04E-27	0.003105	0.016242	0.8484	115000
rs9556403	G	A	NA	0.388	0.0205	0.0026	4.66E-15	-0.00421	0.016793	0.8021	115000
rs9644032	G	T	NA	0.7065	-0.0159	0.0026	1.03E-09	-0.01518	0.016895	0.3688	115000
rs9892297	G	A	NA	0.3482	-0.1366	0.0026	1.00E-200	0.026241	0.017705	0.1383	115000
rs9987289	G	A	NA	0.886	0.0437	0.0043	3.22E-24	0.022348	0.029139	0.4431	115000

SNP, single nucleotide polymorphism; MS, multiple sclerosis; GWAS, genome-wide association studies; NA, not available.

Table S8 SNPs identified in DLB GWAS

SNP	effect_allele	other_allele	eaf.exposure	eaf.outcome	beta.exposure	se.exposure	pval.exposure	beta.outcome	se.outcome	pval.outcome
rs10069690	T	C	NA	0.259871	-0.017	0.0028	2.13E-09	0.001479	0.042246	0.972028
rs1060817	G	A	NA	0.596598	-0.0176	0.0025	5.12E-12	0.056777	0.037772	0.132805
rs1076540	T	C	NA	0.240502	0.0169	0.0029	8.14E-09	0.002257	0.043422	0.958514
rs10838681	A	G	NA	0.240502	0.0162	0.0028	8.80E-09	0.012344	0.042933	0.773647
rs11075253	A	C	NA	0.313136	0.023	0.0028	6.30E-17	0.001748	0.039493	0.964768
rs11078405	T	G	NA	0.402781	-0.0293	0.0026	1.40E-29	-0.05894	0.038484	0.125619
rs1126670	A	C	NA	0.675317	-0.028	0.0027	1.35E-24	0.060169	0.039896	0.13152
rs1128249	T	G	NA	0.399181	0.0286	0.0026	8.43E-29	0.046559	0.037765	0.217645
rs11550348	A	G	NA	0.125031	0.0536	0.0038	5.40E-46	0.017093	0.055984	0.760083
rs116189680	A	G	NA	0.02297	0.1439	0.0077	6.52E-78	0.300542	0.116166	0.009677
rs11626364	C	T	NA	0.158182	0.0237	0.0035	9.61E-12	0.020038	0.051236	0.695713
rs11636917	C	T	NA	0.368016	-0.0247	0.0026	1.06E-20	-0.02352	0.038591	0.542287
rs11655704	C	T	NA	0.307177	0.0785	0.0027	1.30E-189	-0.03443	0.039913	0.388363
rs11739158	T	C	NA	0.434318	0.0148	0.0025	4.85E-09	-0.09833	0.037534	0.008798
rs11748288	G	A	NA	0.579339	0.0167	0.0025	5.85E-11	0.073746	0.037828	0.051233
rs1183910	A	G	NA	0.329898	-0.0261	0.0027	6.73E-22	0.042207	0.039347	0.283434
rs11856886	G	A	NA	0.302334	0.0194	0.0027	1.27E-12	0.040979	0.039594	0.3007
rs11887329	G	A	NA	0.237522	-0.0213	0.003	7.13E-13	-0.01171	0.043009	0.785398
rs11918018	A	G	NA	0.462627	-0.0153	0.0025	1.03E-09	-0.02809	0.037449	0.453224
rs11935444	C	T	NA	0.562329	-0.0165	0.0026	4.11E-10	0.018373	0.037969	0.62846
rs12192649	A	G	NA	0.214055	0.022	0.003	9.97E-14	0.022788	0.044747	0.610504
rs12325400	G	C	NA	0.390986	-0.016	0.0026	4.03E-10	-0.1301	0.038194	0.000659
rs12414178	T	C	NA	0.25118	-0.0269	0.0029	5.57E-20	0.00016	0.042843	0.997008
rs12569576	G	A	NA	0.436057	-0.017	0.0025	1.25E-11	0.0866	0.037424	0.020671
rs12575636	G	T	NA	0.200273	-0.027	0.0033	1.36E-16	0.048685	0.046164	0.291626
rs1260326	C	T	NA	0.565061	0.0772	0.0026	4.58E-198	0.02041	0.037293	0.584175
rs12748152	T	C	NA	0.070524	-0.0668	0.0046	2.79E-47	0.015568	0.070765	0.82592
rs13094241	G	T	NA	0.733673	0.0172	0.0028	1.04E-09	-0.0191	0.041357	0.644326
rs1421085	C	T	NA	0.420164	-0.0183	0.0026	8.91E-13	0.019469	0.037619	0.604807
rs1497406	G	A	NA	0.564813	0.027	0.0025	1.56E-26	0.021522	0.037193	0.562832
rs1547014	C	T	NA	0.705488	-0.0293	0.0027	5.70E-28	-0.06377	0.039973	0.1106
rs1556562	T	G	NA	0.811274	0.0243	0.003	8.54E-16	-0.11378	0.046483	0.014367
rs157934	C	T	NA	0.299106	0.0229	0.0027	4.25E-17	-0.0601	0.04018	0.134748
rs1635852	C	T	NA	0.505339	0.0187	0.0025	6.54E-14	-0.01758	0.03689	0.633554
rs16845803	G	A	NA	0.131487	-0.0251	0.0037	1.08E-11	0.032632	0.053855	0.544554
rs17041868	C	T	NA	0.060839	-0.0346	0.005	6.49E-12	-0.00601	0.078529	0.939001
rs1716403	C	T	NA	0.679662	-0.0168	0.0027	3.75E-10	0.026139	0.039877	0.512153
rs17202341	G	A	NA	0.341694	0.0157	0.0026	2.86E-09	-0.0327	0.038963	0.401366
rs17377148	G	T	NA	0.059722	0.0401	0.0048	1.13E-16	0.075961	0.075036	0.31138
rs174601	T	C	NA	0.35262	-0.0252	0.0026	1.80E-22	0.06634	0.038757	0.086969
rs1755618	T	G	NA	0.139806	-0.0252	0.0035	1.17E-12	0.031198	0.05268	0.553656
rs17580	A	T	NA	0.03489	0.0535	0.0059	1.54E-19	0.144014	0.093757	0.124531
rs17628931	C	T	NA	0.102682	0.0294	0.0041	4.71E-13	0.125372	0.059669	0.035627
rs1772183	A	G	NA	0.482493	-0.022	0.0025	1.30E-18	-0.01224	0.037342	0.743096
rs17794619	A	G	NA	0.13335	-0.0347	0.0037	3.61E-21	0.002477	0.05411	0.96355
rs17826544	G	A	NA	0.640055	0.029	0.0026	3.87E-29	-0.12952	0.038524	0.000774
rs1801689	C	A	NA	0.034641	-0.0912	0.0074	6.69E-35	0.070719	0.102279	0.489314
rs1832007	G	A	NA	0.139185	-0.0483	0.0035	3.66E-43	0.050512	0.05251	0.33607
rs1935	G	C	NA	0.494289	0.1198	0.0025	1.00E-200	0.038846	0.036827	0.291493
rs1982151	G	A	NA	0.719146	-0.049	0.0028	9.23E-67	0.046154	0.041751	0.268968
rs2081687	C	T	NA	0.647256	0.0247	0.0026	1.03E-20	-0.00095	0.039129	0.98067
rs2205262	A	C	NA	0.595853	-0.0167	0.0025	4.00E-11	-0.01411	0.037714	0.708311
rs2254069	A	G	NA	0.115843	-0.0265	0.0038	2.11E-12	0.020724	0.058165	0.721603
rs2266782	A	G	NA	0.401664	-0.0163	0.0025	1.25E-10	-0.01273	0.037757	0.736063
rs2335077	G	A	NA	0.347902	0.0463	0.0026	1.71E-69	-0.0759	0.039103	0.052238
rs2427530	A	G	NA	0.225602	0.0194	0.0029	2.99E-11	0.016995	0.043725	0.697585
rs2487826	C	T	NA	0.455302	0.0176	0.0025	3.56E-12	0.044237	0.03728	0.235366
rs2537855	G	A	NA	0.290539	0.0447	0.0028	3.56E-59	0.030481	0.040329	0.449709
rs2618566	T	G	NA	0.638813	-0.0171	0.0026	8.57E-11	0.030121	0.038709	0.436482
rs2642420	A	C	NA	0.17184	-0.0247	0.0033	9.54E-14	0.056862	0.04899	0.245781
rs2836950	G	C	NA	0.355972	-0.0154	0.0026	3.64E-09	-0.07527	0.039451	0.056397
rs2860075	G	A	NA	0.663645	-0.0289	0.0026	1.40E-28	-0.0049	0.039274	0.900735
rs28925904	T	C	NA	0.0185	-0.0576	0.0081	1.49E-12	0.108514	0.131759	0.410198
rs28929474	T	C	NA	0.016389	0.219	0.0091	5.87E-129	0.029908	0.140193	0.831056
rs2943641	C	T	NA	0.637447	-0.0322	0.0026	6.16E-35	0.004763	0.038196	0.900761
rs34145453	G	A	NA	0.375962	0.0189	0.0026	2.90E-13	-0.00391	0.038817	0.919813
rs34372369	A	G	NA	0.056245	0.037	0.0057	6.20E-11	-0.13479	0.08441	0.110289
rs35371479	T	C	NA	0.192575	0.0256	0.0033	7.00E-15	0.025629	0.047055	0.586062
rs35386490	C	T	NA	0.196052	0.1118	0.003	1.00E-200	-0.06884	0.046208	0.136283
rs3749237	A	G	NA	0.290911	-0.0257	0.0027	8.87E-22	0.02781	0.04032	0.490389
rs3779195	A	T	NA	0.172337	-0.0768	0.0032	2.35E-126	-0.00323	0.04883	0.947332

Table S8 (continued)

Table S8 (continued)

SNP	effect_allele	other_allele	eaf.exposure	eaf.outcome	beta.exposure	se.exposure	pval.exposure	beta.outcome	se.outcome	pval.outcome
rs3818247	T	G	NA	0.330767	-0.0247	0.0026	2.95E-21	0.016857	0.038899	0.664841
rs3848375	T	C	NA	0.816489	0.0231	0.0032	3.11E-13	-0.07451	0.047778	0.118874
rs41302867	A	G	NA	0.119444	-0.0342	0.0039	8.26E-19	-0.04102	0.056635	0.46887
rs4149056	C	T	NA	0.150981	-0.067	0.0035	9.39E-81	-0.00313	0.051724	0.951816
rs440837	G	A	NA	0.23181	0.0466	0.0031	1.16E-50	-0.02128	0.044604	0.633355
rs45512696	T	C	NA	0.152098	0.0407	0.0033	2.72E-34	-0.00898	0.050176	0.858041
rs45535039	C	T	NA	0.288428	0.0204	0.0028	3.34E-13	-0.02028	0.041364	0.623955
rs4639796	A	G	NA	0.16141	-0.0296	0.0034	3.23E-18	-0.07048	0.050735	0.164795
rs464605	T	C	NA	0.742985	-0.0323	0.0029	1.25E-29	0.042076	0.042286	0.319726
rs4660293	G	A	NA	0.232928	-0.0295	0.003	5.90E-23	0.007383	0.043254	0.864418
rs4690098	T	C	NA	0.23181	-0.0498	0.003	1.01E-61	-0.06162	0.043888	0.16034
rs4822455	T	C	NA	0.567917	-0.0184	0.0025	3.48E-13	0.00838	0.037555	0.823419
rs4983559	A	G	NA	0.622796	-0.0179	0.0026	2.85E-12	-0.03127	0.037885	0.409268
rs555754	A	G	NA	0.510678	0.0343	0.0025	5.02E-42	-0.0631	0.036812	0.086504
rs55840085	A	G	NA	0.371244	0.0195	0.0026	6.35E-14	-0.07872	0.038362	0.040155
rs56196860	A	C	NA	0.031041	0.0478	0.0073	5.01E-11	-0.10207	0.108608	0.347333
rs5745687	T	C	NA	0.073256	0.0307	0.0051	2.07E-09	-0.06318	0.074045	0.393509
rs57506806	G	A	NA	0.229451	0.0351	0.003	2.25E-32	-0.02601	0.044066	0.555086
rs58941251	T	C	NA	0.111622	-0.0241	0.0041	2.74E-09	-0.00215	0.059326	0.97109
rs6129800	A	G	NA	0.212317	0.0239	0.003	1.35E-15	0.005395	0.044497	0.903447
rs61935507	T	C	NA	0.141793	-0.0295	0.0037	1.50E-15	0.027498	0.053283	0.605827
rs62576339	C	T	NA	0.248945	0.03	0.0029	8.22E-25	0.019881	0.043206	0.645381
rs62580767	C	T	NA	0.184132	0.0234	0.0033	8.54E-13	-0.01178	0.048637	0.808604
rs62618693	T	C	NA	0.043705	0.041	0.0061	1.93E-11	-0.06574	0.090072	0.465456
rs6356	T	C	NA	0.370872	0.0199	0.0026	2.43E-14	0.044189	0.0383	0.248568
rs6736913	G	A	NA	0.98597	-0.0712	0.0089	1.12E-15	-0.12571	0.14852	0.39732
rs6756943	A	G	NA	0.689223	-0.0448	0.0027	5.62E-61	0.011513	0.040004	0.773499
rs6954673	T	C	NA	0.334741	-0.0185	0.0026	1.27E-12	0.078978	0.038955	0.04262
rs7221345	A	G	NA	0.60144	-0.0325	0.0026	3.13E-37	-0.00475	0.037421	0.899105
rs7239151	A	G	NA	0.700521	0.0155	0.0027	6.50E-09	0.020496	0.040513	0.612929
rs724577	C	A	NA	0.732804	-0.0186	0.0028	6.04E-11	0.081037	0.042269	0.055219
rs7250351	A	G	NA	0.896325	0.0229	0.0041	2.17E-08	-0.00444	0.059524	0.940562
rs7250425	T	C	NA	0.507946	0.0179	0.0025	7.64E-13	-0.01528	0.036954	0.679166
rs72683923	C	T	NA	0.015644	0.0774	0.0092	5.67E-17	-0.23903	0.154838	0.12266
rs72756074	G	A	NA	0.123417	0.023	0.0038	1.65E-09	-0.07891	0.057793	0.172139
rs7314285	G	T	NA	0.068413	0.0764	0.0048	3.82E-56	0.045079	0.071795	0.530119
rs738409	G	C	NA	0.234542	0.0486	0.003	5.06E-58	-0.06511	0.044247	0.141156
rs7429135	G	T	NA	0.835113	0.0199	0.0034	5.92E-09	0.019747	0.050787	0.697406
rs750472	C	A	NA	0.496896	-0.0216	0.0025	4.22E-18	0.039573	0.037268	0.288307
rs76610881	G	A	NA	0.094736	0.0418	0.0041	7.29E-25	0.068527	0.061505	0.265218
rs7694379	A	G	NA	0.415942	-0.042	0.0025	4.75E-62	-0.00325	0.037501	0.930974
rs7697204	T	C	NA	0.732804	-0.0295	0.0028	4.24E-25	0.068592	0.04261	0.107453
rs78025076	T	C	NA	0.017631	0.0503	0.0089	1.62E-08	0.023843	0.137623	0.862441
rs78444298	A	G	NA	0.01341	-0.0613	0.0093	5.44E-11	0.102809	0.152087	0.499062
rs7922067	A	G	NA	0.581202	-0.0211	0.0025	1.18E-16	-0.00152	0.03703	0.967229
rs7947951	G	A	NA	0.68078	-0.0283	0.0027	9.37E-26	0.013196	0.04006	0.741853
rs7994151	G	A	NA	0.156692	-0.0206	0.0035	2.89E-09	-0.06841	0.051743	0.186134
rs8017377	A	G	NA	0.475788	-0.0342	0.0025	3.92E-42	-0.00987	0.03729	0.791324
rs8023580	C	T	NA	0.297492	0.073	0.0028	1.52E-150	0.030646	0.040962	0.454405
rs9316500	G	T	NA	0.307673	-0.0172	0.0027	3.05E-10	0.033938	0.039851	0.394362
rs9332817	C	G	NA	0.028061	0.05	0.0079	3.09E-10	-0.17612	0.117168	0.132797
rs9388768	A	C	NA	0.674447	-0.0197	0.0027	1.39E-13	0.057391	0.039856	0.149884
rs9427104	T	C	NA	0.479017	0.027	0.0025	4.04E-27	0.01412	0.036981	0.70254
rs9556403	G	A	NA	0.365036	0.0205	0.0026	4.66E-15	0.025483	0.03841	0.507082
rs9644032	G	T	NA	0.626397	-0.0159	0.0026	1.03E-09	0.012262	0.03872	0.751479
rs976002	G	A	NA	0.219518	0.035	0.0029	1.60E-33	-0.00871	0.044898	0.846095
rs9892297	G	A	NA	0.328532	-0.1366	0.0026	1.00E-200	-0.04856	0.038982	0.212829
rs9987289	G	A	NA	0.922151	0.0437	0.0043	3.22E-24	0.033742	0.068998	0.624819

SNP, single nucleotide polymorphism; DLB, Dementia with Lewy Bodies; GWAS, genome-wide association studies; NA, not available.

Table S9 SNPs identified in FTD GWAS

SNP	effect_allele	other_allele	eaf.exposure	eaf.outcome	beta.exposure	se.exposure	pval.exposure	beta.outcome	se.outcome	pval.outcome
rs1060817	G	A	NA	NA	-0.0176	0.0025	5.12E-12	-0.0136	0.0398	0.7317
rs1076540	T	C	NA	NA	0.0169	0.0029	8.14E-09	0.0587	0.0453	0.1951
rs10838681	A	G	NA	NA	0.0162	0.0028	8.80E-09	-0.047	0.0462	0.3096
rs10871777	G	A	NA	NA	-0.0227	0.0029	8.41E-15	-0.056	0.0451	0.2146
rs1106766	T	C	NA	NA	0.0357	0.0029	5.41E-34	0.2205	0.0579	0.000138
rs11075253	A	C	NA	NA	0.023	0.0028	6.30E-17	0.0339	0.0624	0.5867
rs11078405	T	G	NA	NA	-0.0293	0.0026	1.40E-29	-0.0222	0.0456	0.6273
rs1126670	A	C	NA	NA	-0.028	0.0027	1.35E-24	0.1207	0.0426	0.004562
rs1128249	T	G	NA	NA	0.0286	0.0026	8.43E-29	-0.0555	0.048	0.2477
rs11550348	A	G	NA	NA	0.0536	0.0038	5.40E-46	-0.1076	0.0657	0.1015
rs11626364	C	T	NA	NA	0.0237	0.0035	9.61E-12	-0.0215	0.0531	0.6862
rs11636917	C	T	NA	NA	-0.0247	0.0026	1.06E-20	-0.0259	0.0412	0.5299
rs11647008	C	T	NA	NA	-0.0249	0.0025	6.86E-23	0.0365	0.0607	0.548
rs11655704	C	T	NA	NA	0.0785	0.0027	1.30E-189	0.0036	0.0426	0.9334
rs11739158	T	C	NA	NA	0.0148	0.0025	4.85E-09	0.0217	0.0393	0.5805
rs11748288	G	A	NA	NA	0.0167	0.0025	5.85E-11	0.0344	0.0394	0.3819
rs1183910	A	G	NA	NA	-0.0261	0.0027	6.73E-22	-0.0296	0.0428	0.4895
rs11856886	G	A	NA	NA	0.0194	0.0027	1.27E-12	0.075	0.0429	0.08064
rs11887329	G	A	NA	NA	-0.0213	0.003	7.13E-13	-0.0245	0.0466	0.5986
rs11918018	A	G	NA	NA	-0.0153	0.0025	1.03E-09	0.0037	0.0427	0.9306
rs11935444	C	T	NA	NA	-0.0165	0.0026	4.11E-10	-0.0102	0.0402	0.7998
rs12192649	A	G	NA	NA	0.022	0.003	9.97E-14	0.0027	0.0471	0.9541
rs12325400	G	C	NA	NA	-0.016	0.0026	4.03E-10	-0.0713	0.0406	0.07873
rs12414178	T	C	NA	NA	-0.0269	0.0029	5.57E-20	-0.042	0.0749	0.5747
rs12569576	G	A	NA	NA	-0.017	0.0025	1.25E-11	0.034	0.0419	0.4162
rs12575636	G	T	NA	NA	-0.027	0.0033	1.36E-16	0.0633	0.0494	0.1998
rs1260326	C	T	NA	NA	0.0772	0.0026	4.58E-198	0.0334	0.0392	0.3948
rs12748152	T	C	NA	NA	-0.0668	0.0046	2.79E-47	-0.1212	0.0831	0.1445
rs12941564	G	C	NA	NA	0.0239	0.0028	1.31E-17	0.0716	0.0438	0.1019
rs13094241	G	T	NA	NA	0.0172	0.0028	1.04E-09	-0.0309	0.0472	0.5131
rs1421085	C	T	NA	NA	-0.0183	0.0026	8.91E-13	-0.004	0.0393	0.9184
rs1497406	G	A	NA	NA	0.027	0.0025	1.56E-26	0.0528	0.0393	0.1789
rs1547014	C	T	NA	NA	-0.0293	0.0027	5.70E-28	-0.0165	0.0426	0.6988
rs1556562	T	G	NA	NA	0.0243	0.003	8.54E-16	0.0093	0.0479	0.8463
rs157934	C	T	NA	NA	0.0229	0.0027	4.25E-17	-0.0034	0.0425	0.9367
rs1635852	C	T	NA	NA	0.0187	0.0025	6.54E-14	-8.00E-04	0.0385	0.9833
rs16845803	G	A	NA	NA	-0.0251	0.0037	1.08E-11	0.0576	0.0605	0.3411
rs1716403	C	T	NA	NA	-0.0168	0.0027	3.75E-10	0.0186	0.0414	0.6531
rs17202341	G	A	NA	NA	0.0157	0.0026	2.86E-09	0.0059	0.0417	0.8884
rs17377148	G	T	NA	NA	0.0401	0.0048	1.13E-16	-0.0676	0.0849	0.4257
rs174601	T	C	NA	NA	-0.0252	0.0026	1.80E-22	0.0144	0.045	0.7489
rs1755618	T	G	NA	NA	-0.0252	0.0035	1.17E-12	0.0081	0.0561	0.885
rs17580	A	T	NA	NA	0.0535	0.0059	1.54E-19	-0.0283	0.1287	0.8262
rs17628931	C	T	NA	NA	0.0294	0.0041	4.71E-13	-0.0021	0.0641	0.9732
rs1772183	A	G	NA	NA	-0.022	0.0025	1.30E-18	-0.0121	0.0392	0.7565
rs17794619	A	G	NA	NA	-0.0347	0.0037	3.61E-21	-0.0324	0.0683	0.6357
rs17826544	G	A	NA	NA	0.029	0.0026	3.87E-29	-0.0147	0.0443	0.7392
rs1801282	G	C	NA	NA	0.0377	0.0039	1.41E-22	-0.0855	0.0623	0.1699
rs1832007	G	A	NA	NA	-0.0483	0.0035	3.66E-43	0.0259	0.0545	0.6348
rs1935	G	C	NA	NA	0.1198	0.0025	1.00E-200	0.0563	0.0459	0.2205
rs1982151	G	A	NA	NA	-0.049	0.0028	9.23E-67	0.0216	0.043	0.6145
rs2081687	C	T	NA	NA	0.0247	0.0026	1.03E-20	-0.0573	0.0409	0.1616
rs2205262	A	C	NA	NA	-0.0167	0.0025	4.00E-11	0.002	0.0401	0.9599
rs2254069	A	G	NA	NA	-0.0265	0.0038	2.11E-12	0.1602	0.0662	0.0156
rs2266782	A	G	NA	NA	-0.0163	0.0025	1.25E-10	-0.0548	0.039	0.1594
rs2335077	G	A	NA	NA	0.0463	0.0026	1.71E-69	-0.0865	0.047	0.06601
rs2427530	A	G	NA	NA	0.0194	0.0029	2.99E-11	0.0444	0.0637	0.4861
rs2487826	C	T	NA	NA	0.0176	0.0025	3.56E-12	0.0103	0.0401	0.7974
rs2537855	G	A	NA	NA	0.0447	0.0028	3.56E-59	-0.0711	0.0551	0.1969
rs2618566	T	G	NA	NA	-0.0171	0.0026	8.57E-11	0.0055	0.0563	0.9229
rs2642420	A	C	NA	NA	-0.0247	0.0033	9.54E-14	-0.0161	0.0514	0.7539
rs2836950	G	C	NA	NA	-0.0154	0.0026	3.64E-09	-0.0414	0.0482	0.3902
rs2860075	G	A	NA	NA	-0.0289	0.0026	1.40E-28	-0.0059	0.0409	0.885
rs2943641	C	T	NA	NA	-0.0322	0.0026	6.16E-35	-0.0618	0.0399	0.1214
rs34145453	G	A	NA	NA	0.0189	0.0026	2.90E-13	0.0226	0.051	0.6578
rs34372369	A	G	NA	NA	0.037	0.0057	6.20E-11	0.0218	0.0901	0.8093
rs35371479	T	C	NA	NA	0.0256	0.0033	7.00E-15	-0.024	0.0517	0.6426
rs35627524	G	T	NA	NA	-0.0433	0.0067	1.09E-10	-0.0539	0.1219	0.6581
rs3779195	A	T	NA	NA	-0.0768	0.0032	2.35E-126	-0.074	0.0603	0.2202
rs3818247	T	G	NA	NA	-0.0247	0.0026	2.95E-21	0.0169	0.057	0.7665
rs41302867	A	G	NA	NA	-0.0342	0.0039	8.26E-19	-0.0268	0.0813	0.7415

Table S9 (continued)

Table S9 (continued)

SNP	effect_allele	other_allele	eaf.exposure	eaf.outcome	beta.exposure	se.exposure	pval.exposure	beta.outcome	se.outcome	pval.outcome
rs4149056	C	T	NA	NA	-0.067	0.0035	9.39E-81	0.1116	0.0556	0.04481
rs4381968	T	C	NA	NA	-0.0138	0.0025	4.23E-08	-0.0997	0.0411	0.0154
rs440837	G	A	NA	NA	0.0466	0.0031	1.16E-50	-0.0365	0.0456	0.4227
rs45512696	T	C	NA	NA	0.0407	0.0033	2.72E-34	-0.0092	0.0545	0.8656
rs45535039	C	T	NA	NA	0.0204	0.0028	3.34E-13	-0.0802	0.0506	0.1131
rs4639796	A	G	NA	NA	-0.0296	0.0034	3.23E-18	-0.0541	0.0642	0.3997
rs464605	T	C	NA	NA	-0.0323	0.0029	1.25E-29	0.0247	0.0501	0.6224
rs4660293	G	A	NA	NA	-0.0295	0.003	5.90E-23	0.0246	0.0479	0.6075
rs4690098	T	C	NA	NA	-0.0498	0.003	1.01E-61	-0.0202	0.0461	0.6604
rs4822455	T	C	NA	NA	-0.0184	0.0025	3.48E-13	-0.0074	0.0405	0.8558
rs4983559	A	G	NA	NA	-0.0179	0.0026	2.85E-12	-0.0513	0.0426	0.2283
rs555754	A	G	NA	NA	0.0343	0.0025	5.02E-42	-0.015	0.0392	0.7023
rs55707100	T	C	NA	NA	-0.1171	0.0081	1.76E-47	0.0607	0.1584	0.7018
rs55840085	A	G	NA	NA	0.0195	0.0026	6.35E-14	-0.0394	0.0417	0.3445
rs5745687	T	C	NA	NA	0.0307	0.0051	2.07E-09	0.0891	0.095	0.3486
rs57506806	G	A	NA	NA	0.0351	0.003	2.25E-32	0.0233	0.0582	0.6888
rs58941251	T	C	NA	NA	-0.0241	0.0041	2.74E-09	-0.1045	0.0655	0.1108
rs6129800	A	G	NA	NA	0.0239	0.003	1.35E-15	0.0186	0.0484	0.7003
rs62576339	C	T	NA	NA	0.03	0.0029	8.22E-25	0.0865	0.0503	0.0856
rs62580767	C	T	NA	NA	0.0234	0.0033	8.54E-13	-0.0198	0.0514	0.6994
rs62618693	T	C	NA	NA	0.041	0.0061	1.93E-11	-0.1912	0.1571	0.2237
rs6736913	G	A	NA	NA	-0.0712	0.0089	1.12E-15	0.0864	0.1714	0.6144
rs6756943	A	G	NA	NA	-0.0448	0.0027	5.62E-61	0.0112	0.044	0.7989
rs6954673	T	C	NA	NA	-0.0185	0.0026	1.27E-12	-0.0334	0.0405	0.4088
rs7221345	A	G	NA	NA	-0.0325	0.0026	3.13E-37	0.0271	0.0437	0.5353
rs7239151	A	G	NA	NA	0.0155	0.0027	6.50E-09	0.058	0.0451	0.1983
rs724577	C	A	NA	NA	-0.0186	0.0028	6.04E-11	0.0024	0.0442	0.9567
rs7250425	T	C	NA	NA	0.0179	0.0025	7.64E-13	0.0673	0.0391	0.08508
rs72683923	C	T	NA	NA	0.0774	0.0092	5.67E-17	0.0931	0.2179	0.669
rs7314285	G	T	NA	NA	0.0764	0.0048	3.82E-56	-0.0021	0.0755	0.9778
rs738409	G	C	NA	NA	0.0486	0.003	5.06E-58	-0.0674	0.0507	0.1844
rs7429135	G	T	NA	NA	0.0199	0.0034	5.92E-09	-0.0017	0.0525	0.9736
rs750472	C	A	NA	NA	-0.0216	0.0025	4.22E-18	0.0399	0.0459	0.3848
rs7694379	A	G	NA	NA	-0.042	0.0025	4.75E-62	0.0032	0.0393	0.935
rs7697204	T	C	NA	NA	-0.0295	0.0028	4.24E-25	0.0339	0.0435	0.4351
rs7922067	A	G	NA	NA	-0.0211	0.0025	1.18E-16	0.0321	0.041	0.4332
rs7947951	G	A	NA	NA	-0.0283	0.0027	9.37E-26	0.0112	0.0422	0.7914
rs7994151	G	A	NA	NA	-0.0206	0.0035	2.89E-09	-0.0014	0.0541	0.9799
rs8017377	A	G	NA	NA	-0.0342	0.0025	3.92E-42	0.0402	0.049	0.4126
rs8023580	C	T	NA	NA	0.073	0.0028	1.52E-150	-0.01	0.0459	0.8277
rs9316500	G	T	NA	NA	-0.0172	0.0027	3.05E-10	0.076	0.0413	0.06539
rs9388768	A	C	NA	NA	-0.0197	0.0027	1.39E-13	-0.0466	0.0434	0.2833
rs9427104	T	C	NA	NA	0.027	0.0025	4.04E-27	0.0235	0.0391	0.5472
rs9556403	G	A	NA	NA	0.0205	0.0026	4.66E-15	-0.0091	0.0399	0.8201
rs9644032	G	T	NA	NA	-0.0159	0.0026	1.03E-09	0.0315	0.041	0.4426
rs9892297	G	A	NA	NA	-0.1366	0.0026	1.00E-200	0.0168	0.0438	0.7011

SNP, single nucleotide polymorphism; FTD, frontotemporal dementia; GWAS, genome-wide association studies; NA, not available.

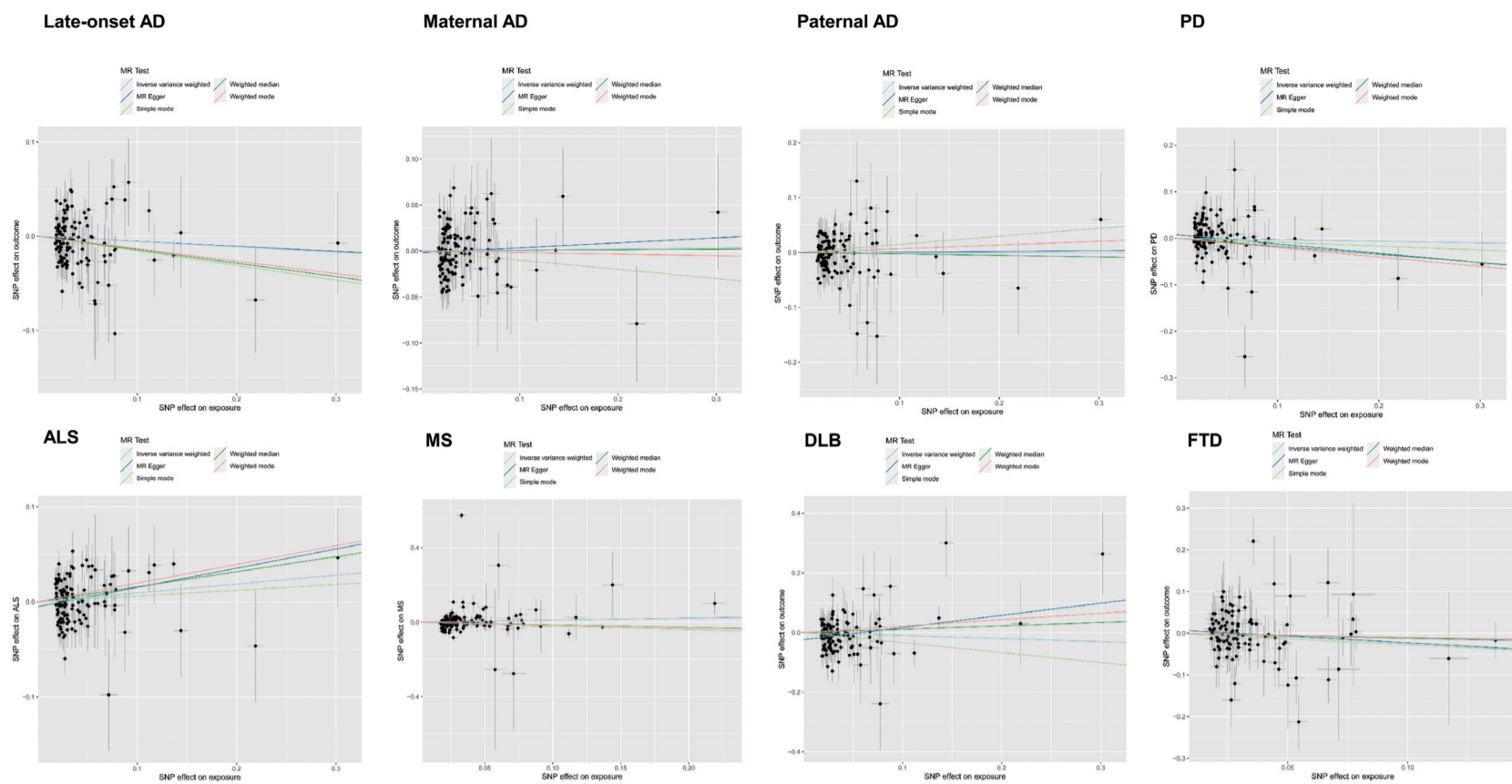


Figure S1 Scatter plots of serum SHBG level and neurodegenerative diseases (clump $R^2=0.00001$). Genome-wide significantly associated ($P<5\times 10^{-8}$) independent (linkage disequilibrium $R^2=0.00001$, clumping distance =10,000 kb) SNPs were used as instruments. SHBG, sex-hormone binding globulin; MR, Mendelian randomization; AD, Alzheimer's disease; PD, Parkinson's disease; ALS, amyotrophic lateral sclerosis; MS, multiple sclerosis; DLB, Dementia with Lewy Bodies; FTD, frontotemporal dementia.

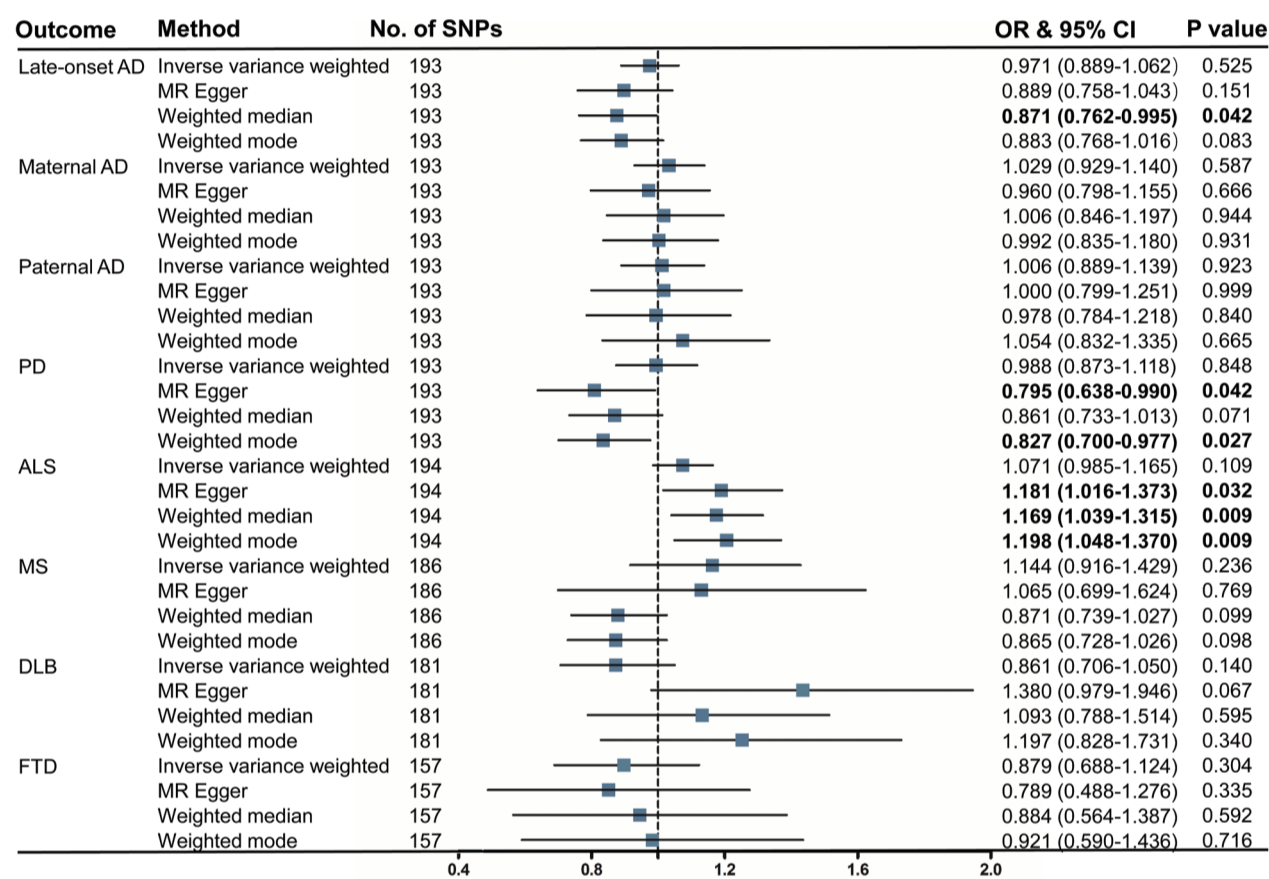


Figure S2 Mendelian randomization results of serum SHBG level and neurodegenerative diseases (clump $R^2=0.001$). Genome-wide significantly associated ($P<5\times 10^{-8}$) independent (linkage disequilibrium $R^2=0.001$, clumping distance =10,000 kb) SNPs were used as instruments. SHBG, Sex-hormone binding globulin; SNP, single nucleotide polymorphism; OR, odds ratio; CI, confidence interval; MR, Mendelian randomization; AD, Alzheimer's disease; PD, Parkinson's disease; ALS, amyotrophic lateral sclerosis; MS, multiple sclerosis; DLB, Dementia with Lewy Bodies; FTD, frontotemporal dementia.

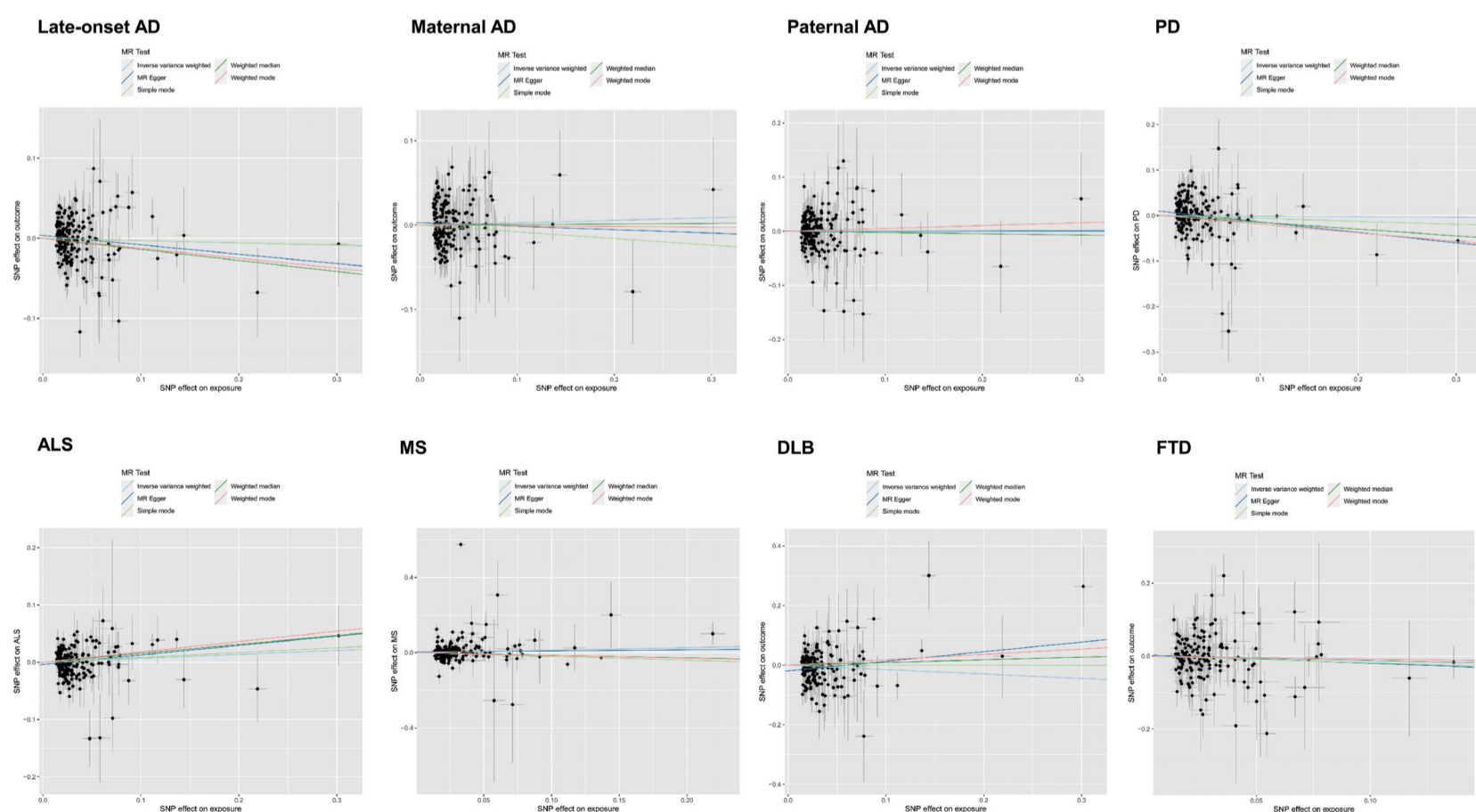


Figure S3 Scatter plots of SHBG and neurodegenerative diseases (clump $R^2=0.001$). Genome-wide significantly associated ($P<5\times 10^{-8}$) independent (linkage disequilibrium $R^2=0.001$, clumping distance =10,000 kb) SNPs were used as instruments. SHBG, sex-hormone binding globulin; MR, Mendelian randomization; AD, Alzheimer's disease; PD, Parkinson's disease; ALS, amyotrophic lateral sclerosis; MS, multiple sclerosis; DLB, Dementia with Lewy Bodies; FTD, frontotemporal dementia.

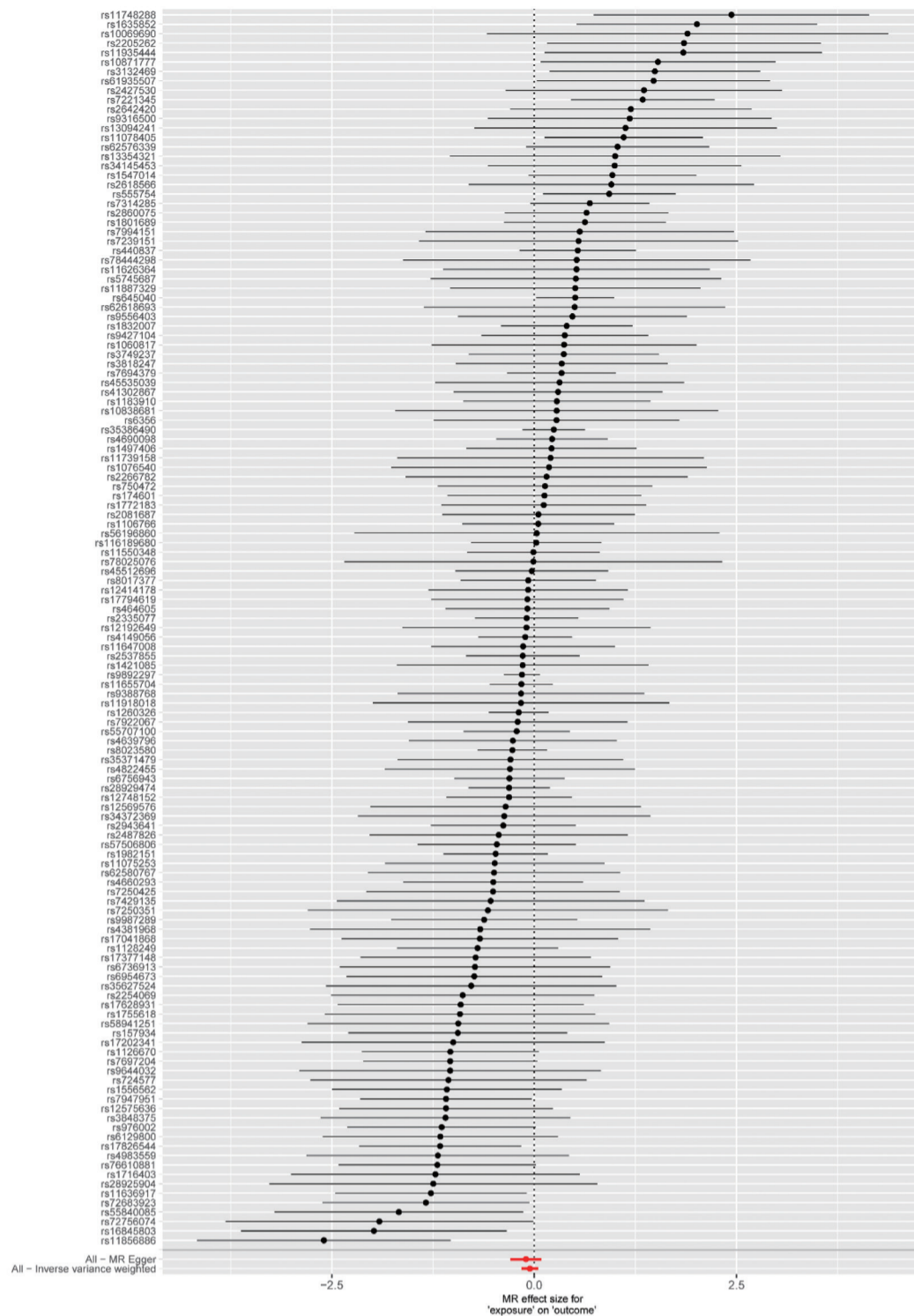
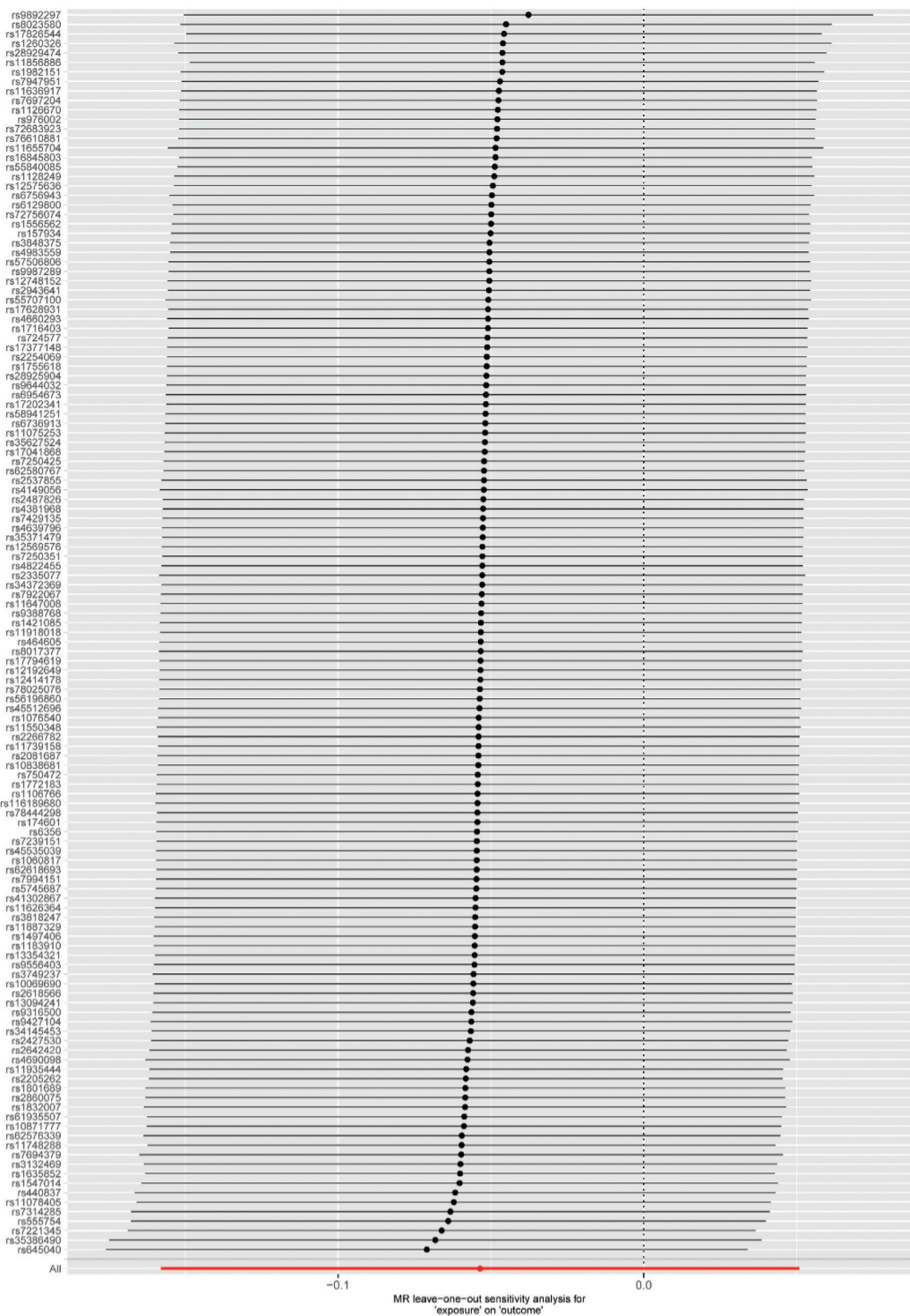


Figure S4 Leave-one-out and single-SNP analyses of late-onset AD.

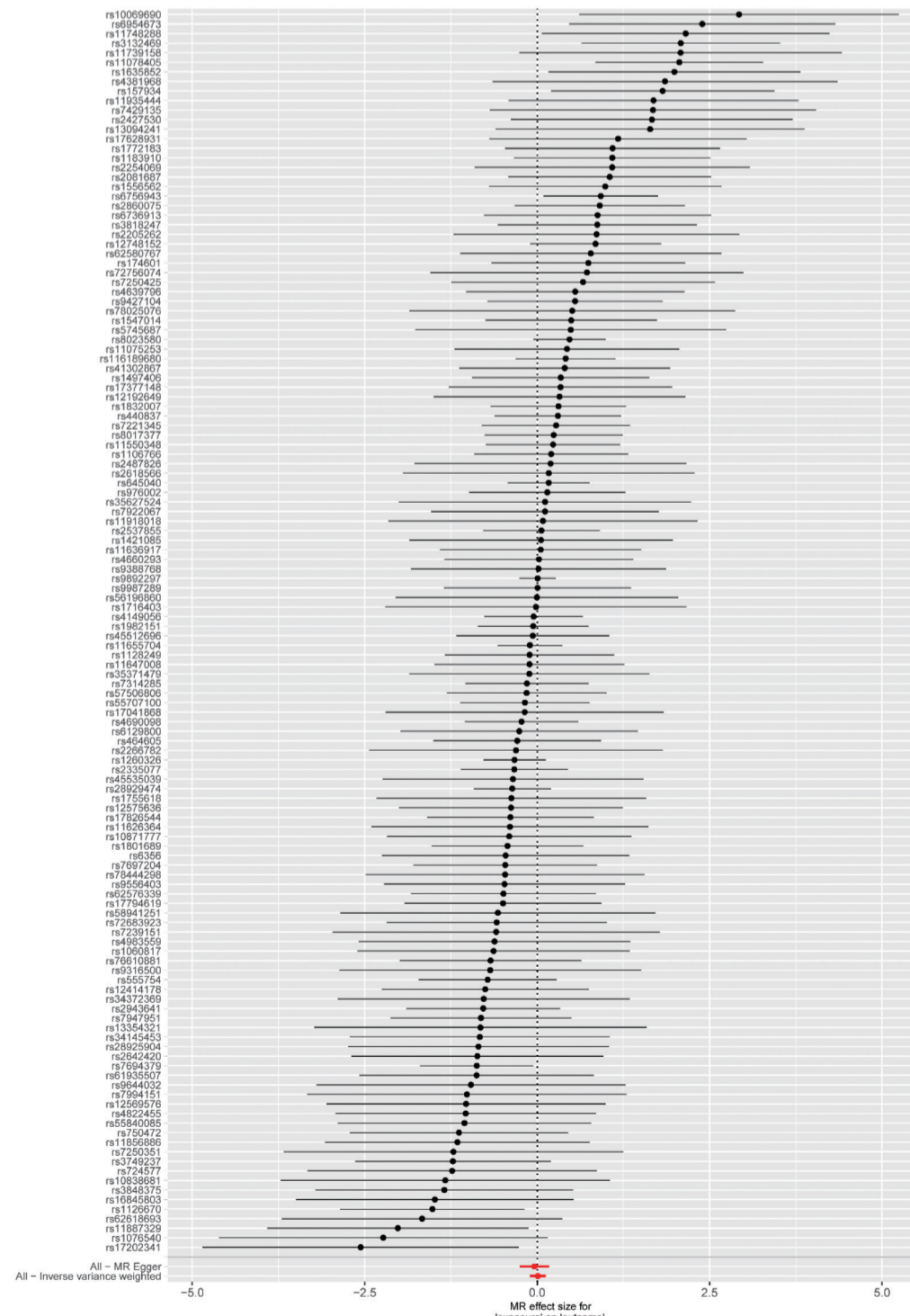
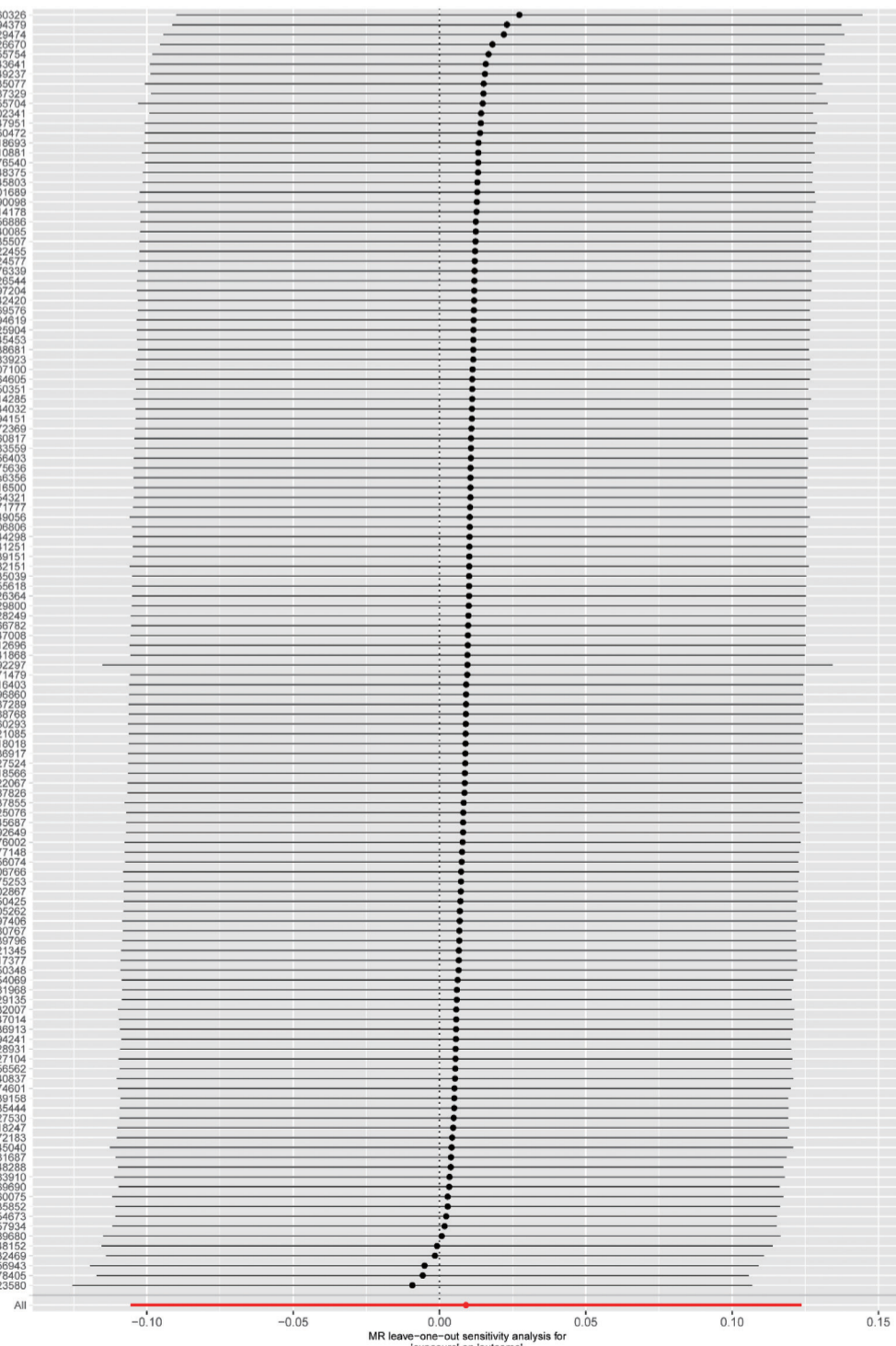


Figure S5 Leave-one-out and single-SNP analyses of maternal AD.

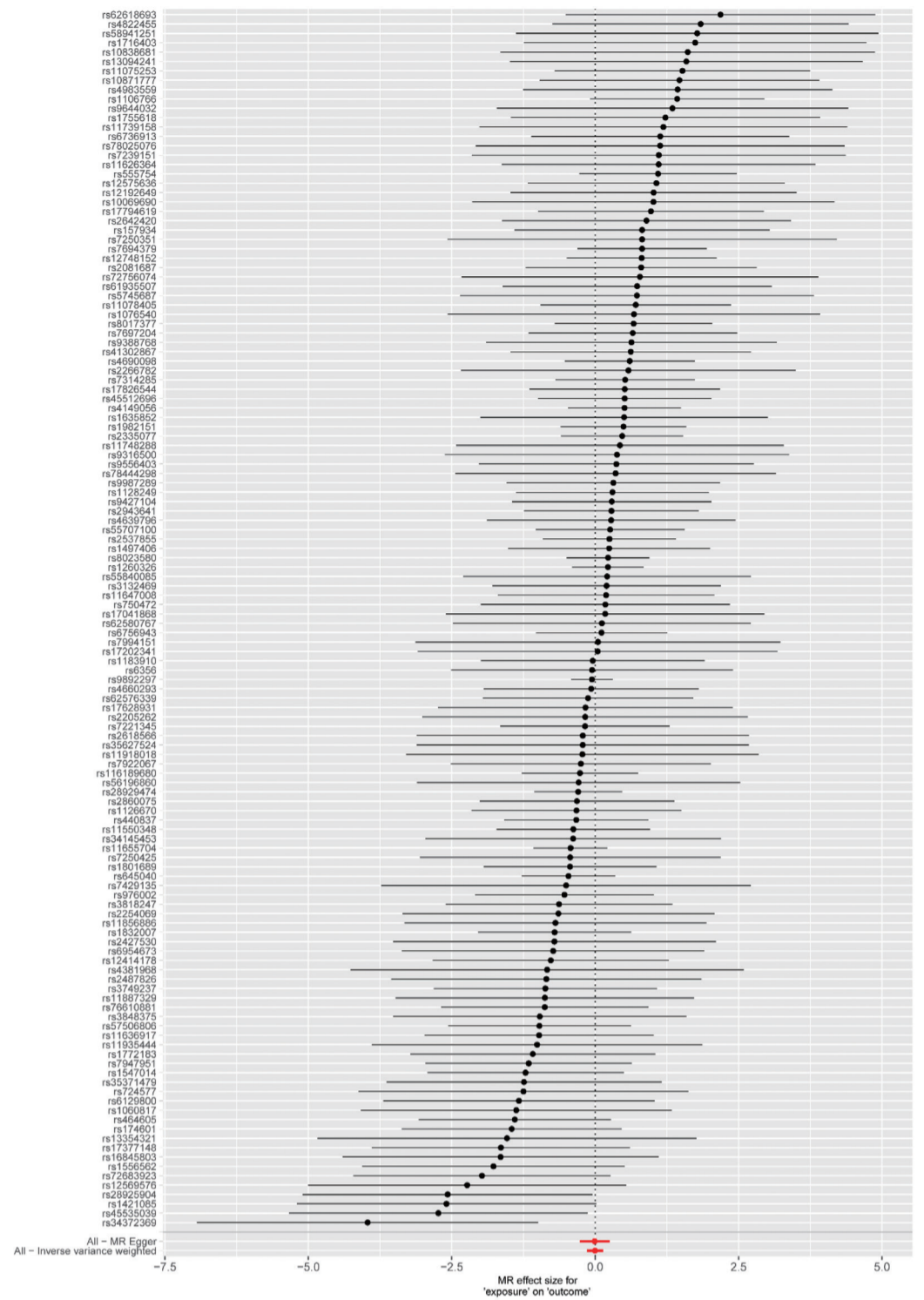
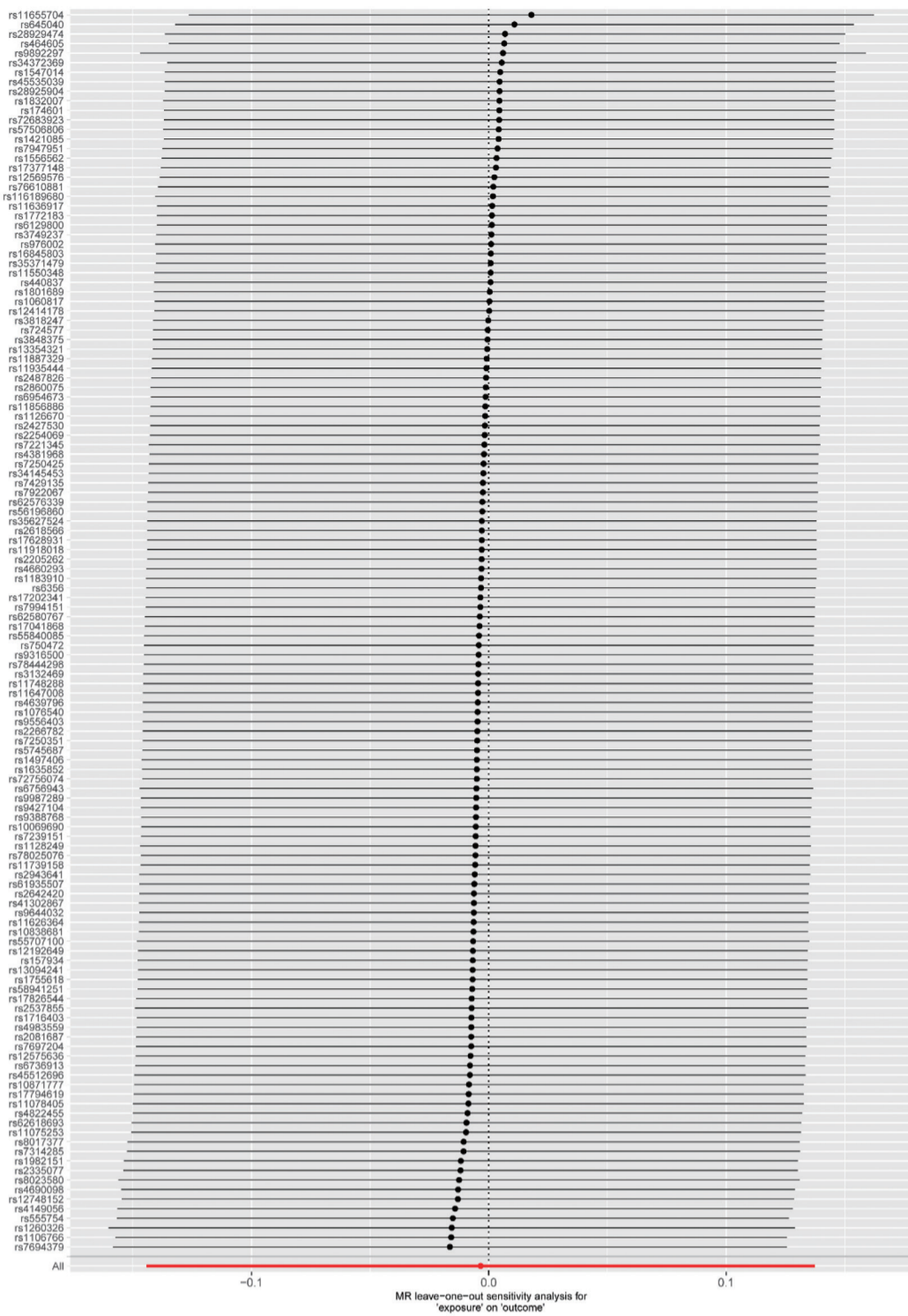


Figure S6 Leave-one-out and single-SNP analyses of paternal AD.

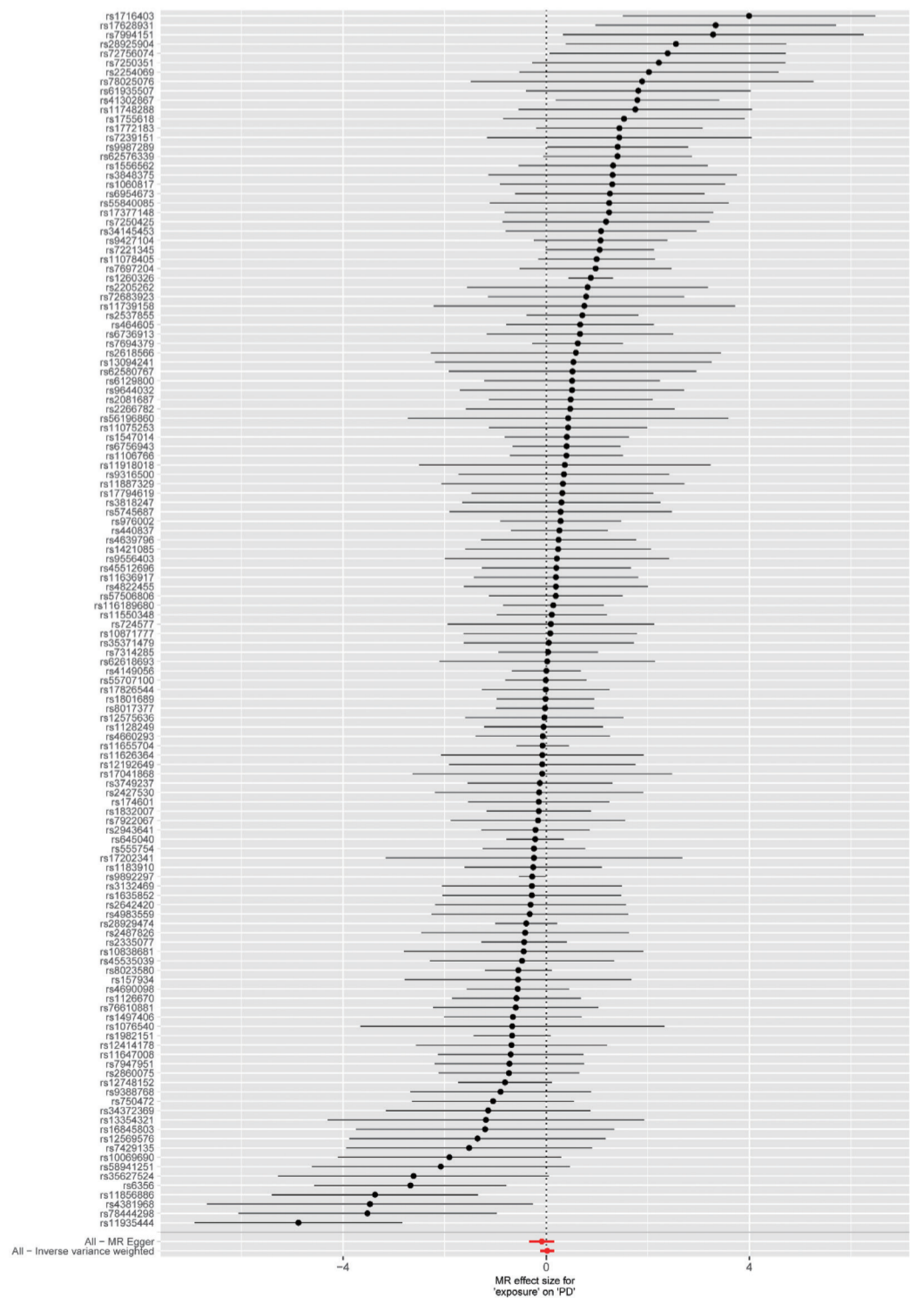
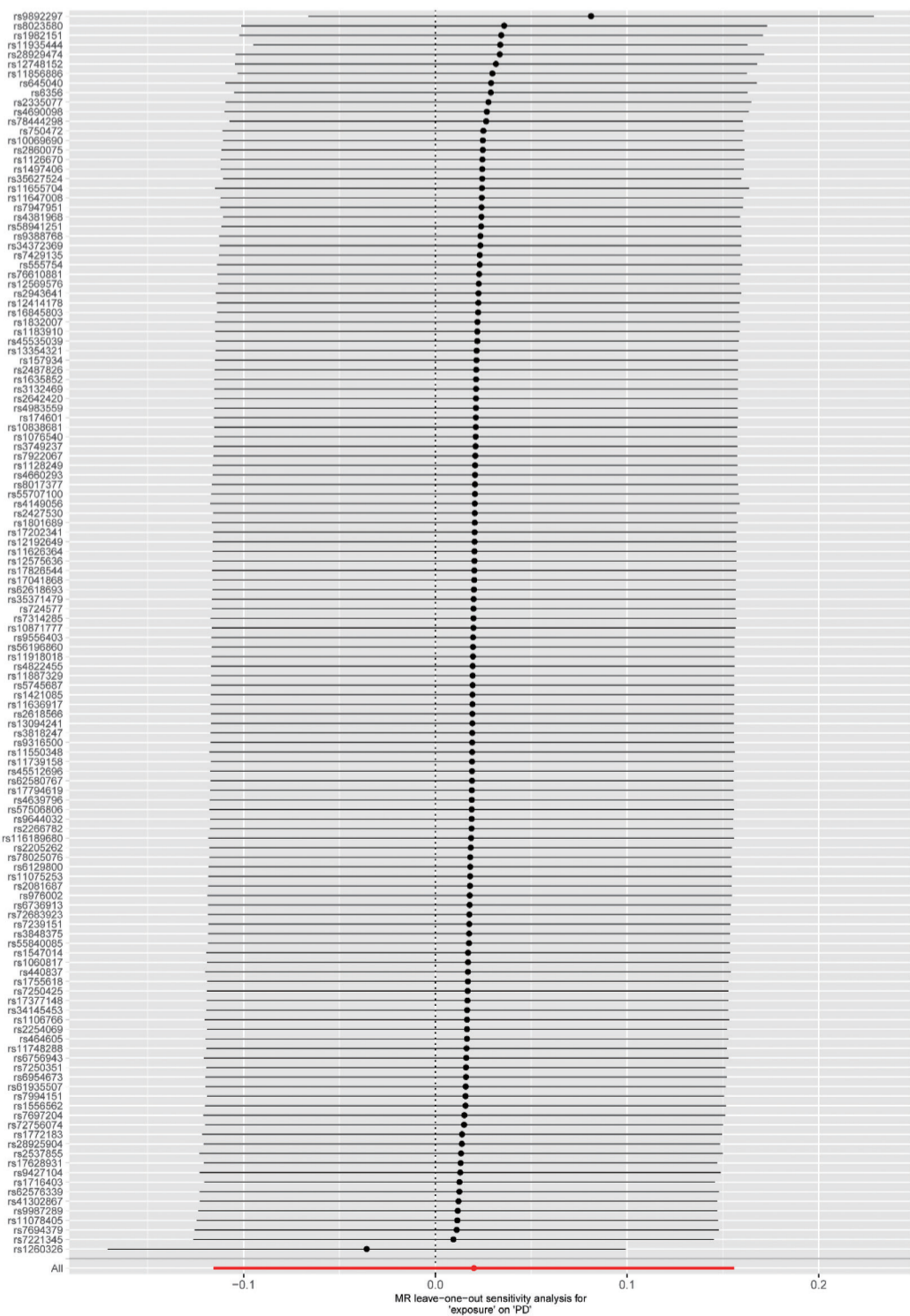


Figure S7 Leave-one-out and single-SNP analyses of PD.

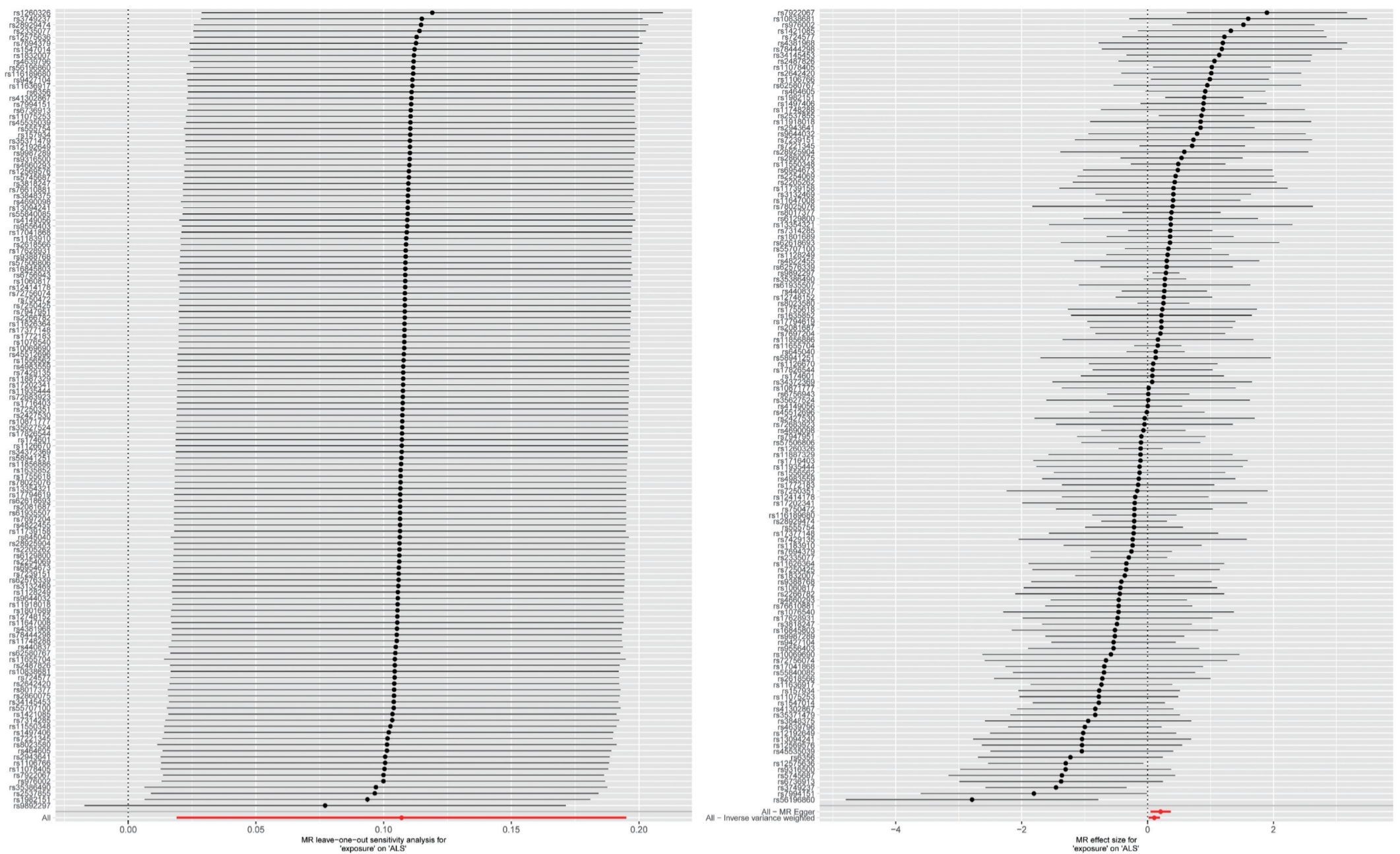


Figure S8 Leave-one-out and single-SNP analyses of ALS.

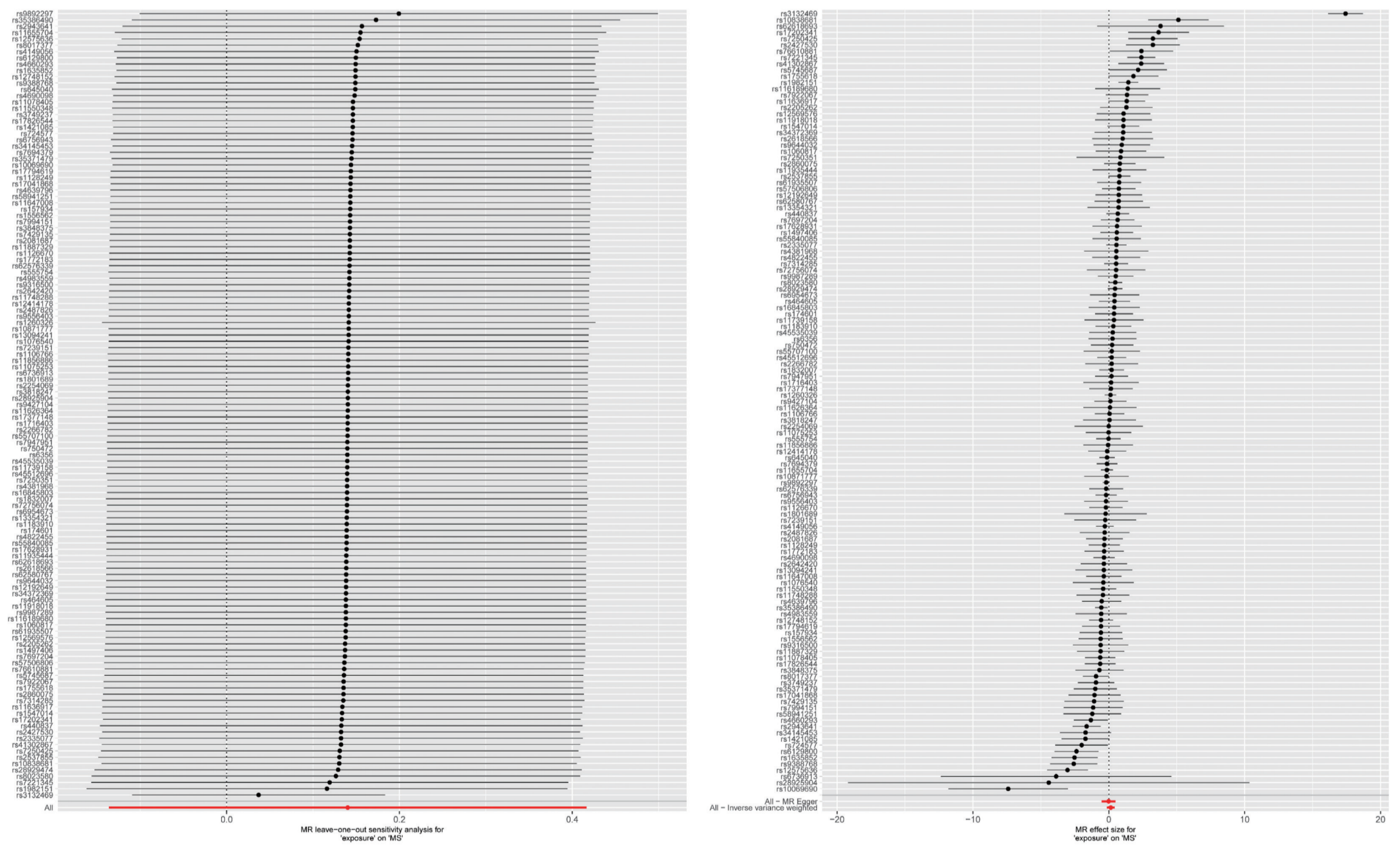


Figure S9 Leave-one-out and single-SNP analyses of MS.

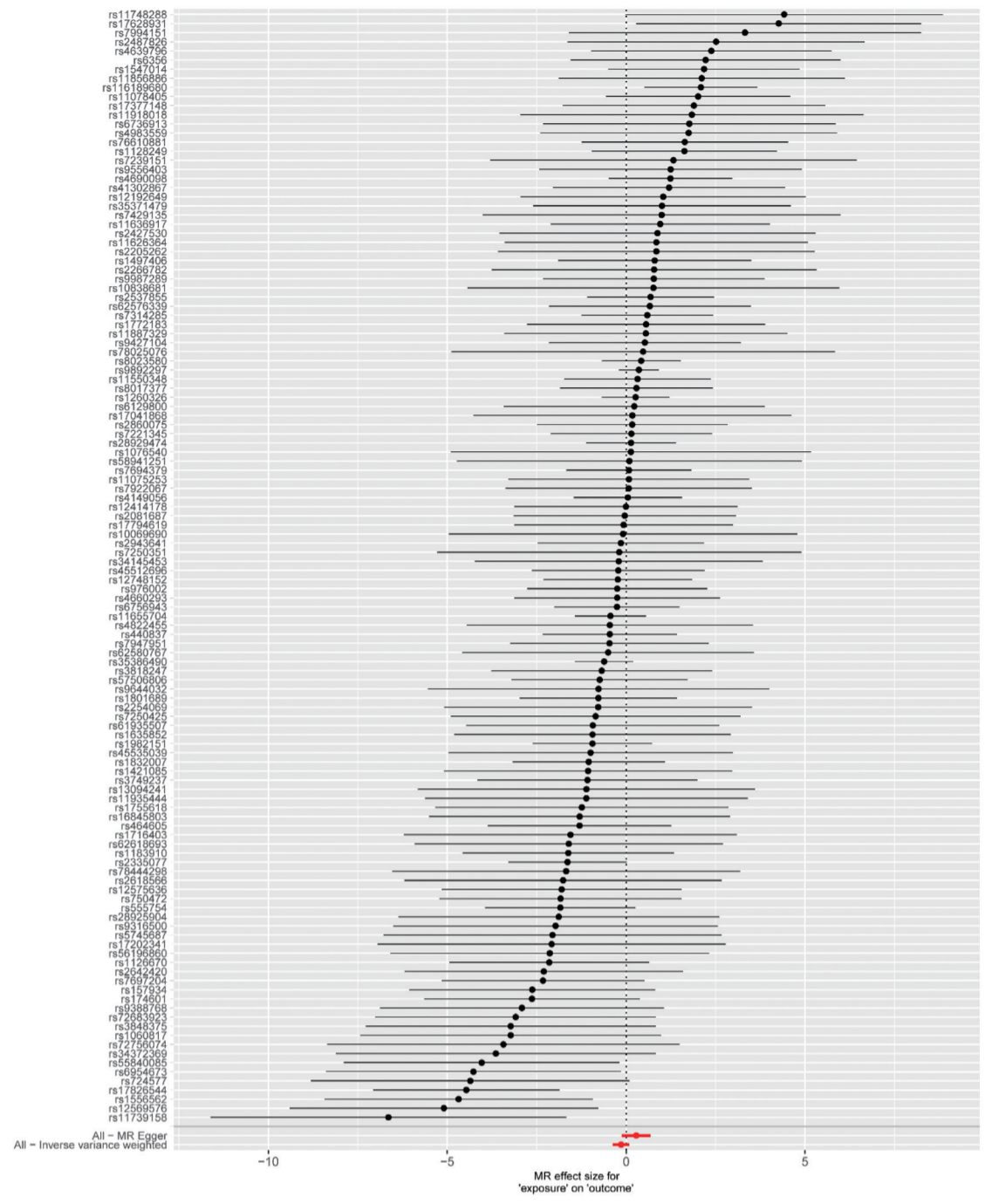
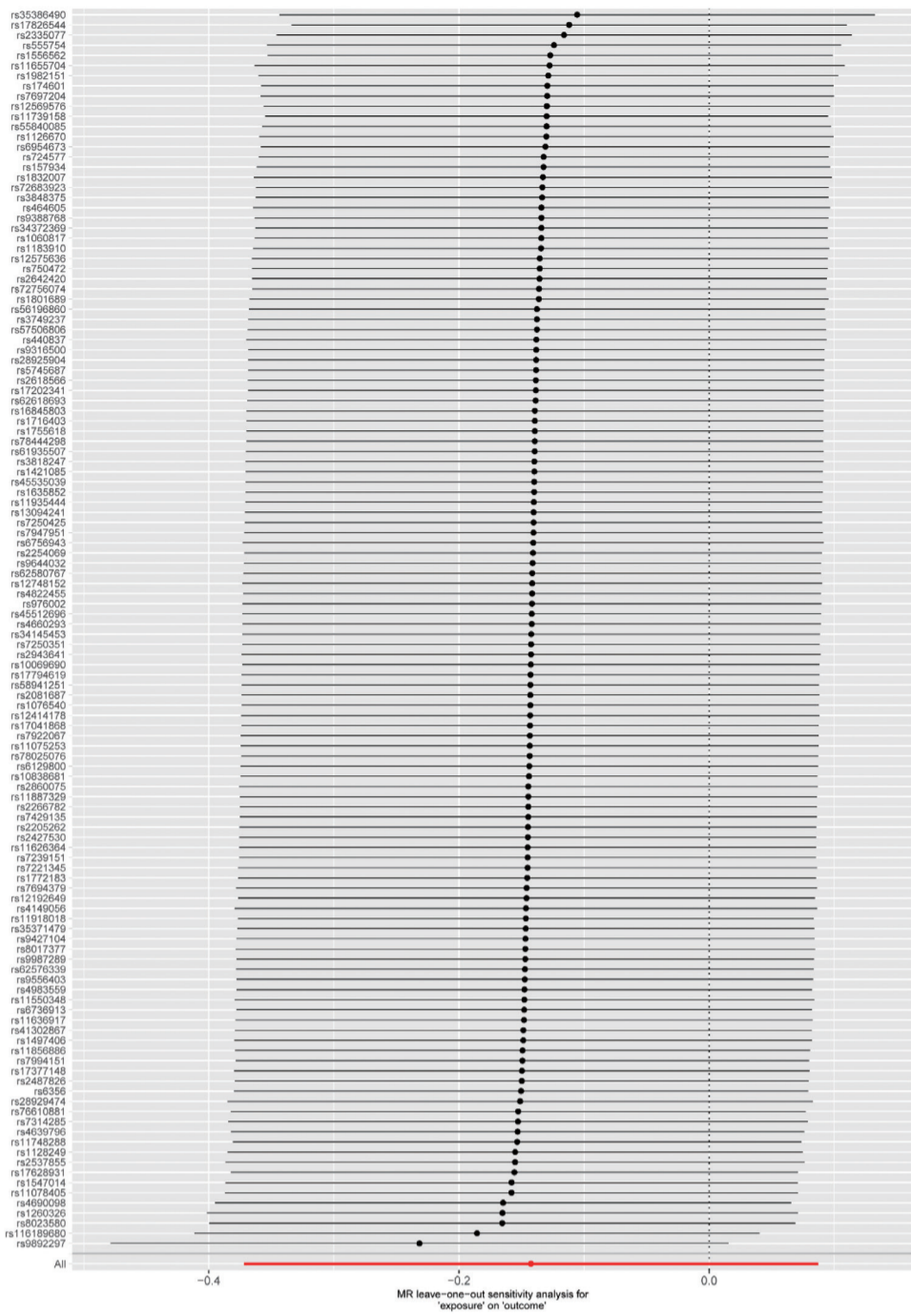


Figure 10 Leave-one-out and single-SNP analyses of DLB.

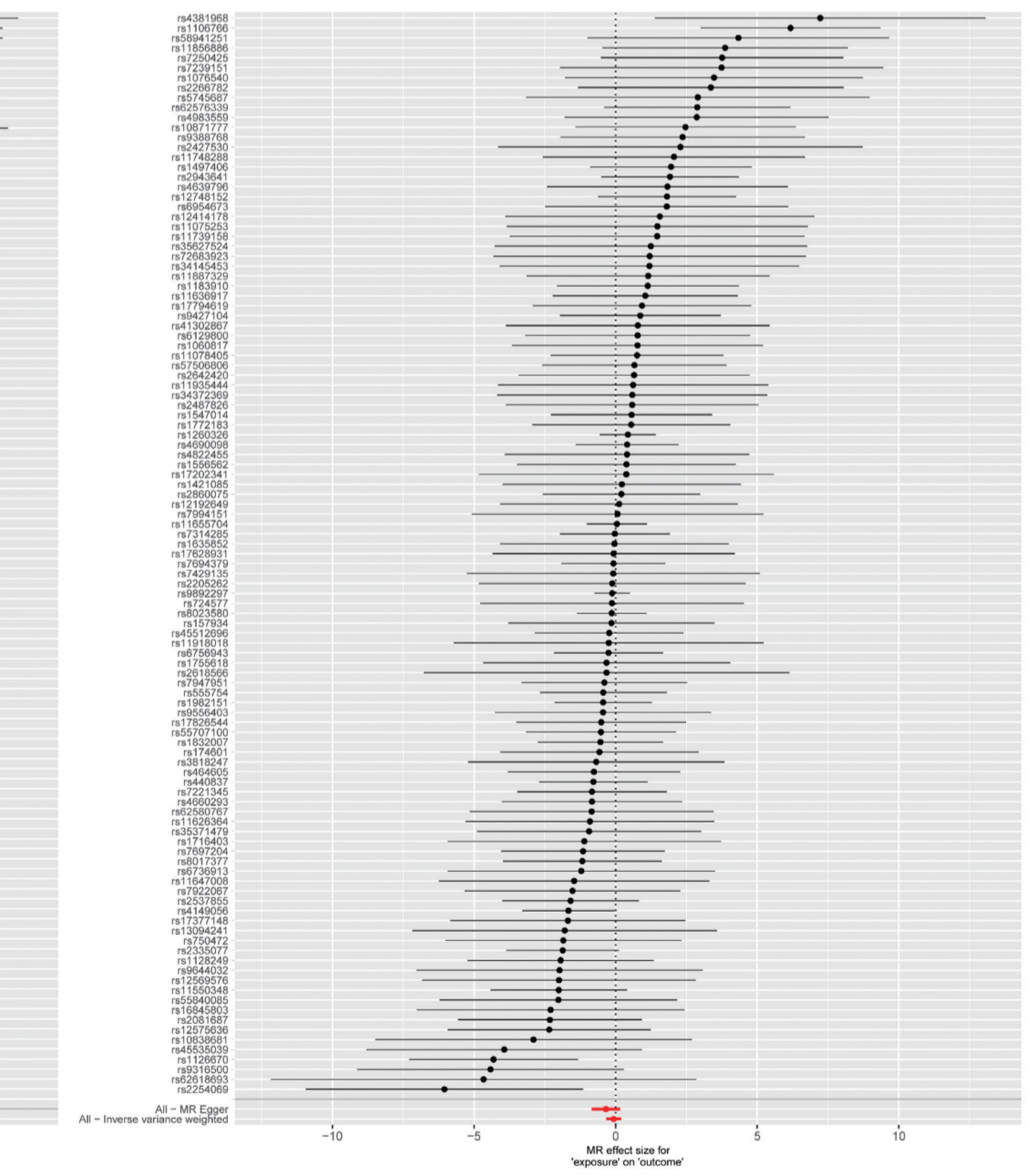
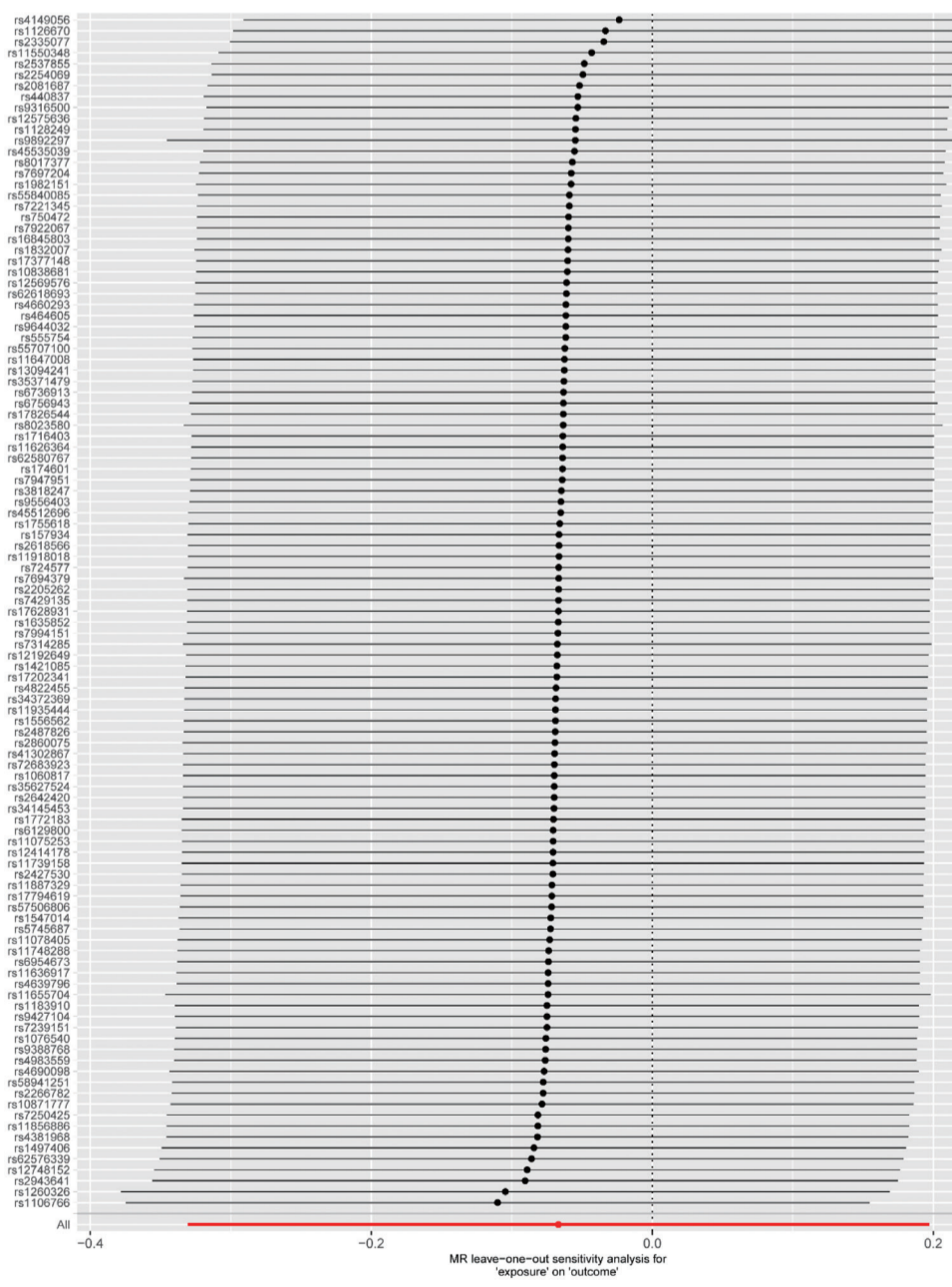


Figure S11 Leave-one-out and single-SNP analyses of FTD.