

	Chromosome	Base pair position	Nearest gene	Effect allele	Other allele	Effect allele frequency	OR (95% CI)	Regression coefficient (β)	Standard error of β	p value, fixed-effects	p value, conditional joint analysis approach	p value, conditional	p value, random-effects	P, %
rs6658353	1	161469054	FCGR2A	C	G	0.501	1.07 (1.05–1.09)	0.065	0.009	$6.10 \times 10^{-12}$	$4.69 \times 10^{-12}$	$1.38 \times 10^{-5}$	$3.71 \times 10^{-5}$	40.2%
rs11578699	1	171719769	VAMP4	T	C	0.195	0.93 (0.91–0.95)	−0.070	0.012	$4.47 \times 10^{-9}$	$4.45 \times 10^{-9}$	$2.63 \times 10^{-3}$	$1.09 \times 10^{-7}$	5.1%
rs76116224	2	18147848	KCNS3	A	T	0.904	1.12 (1.08–1.16)	0.110	0.019	$1.27 \times 10^{-8}$	$1.27 \times 10^{-8}$	$3.75 \times 10^{-7}$	$1.27 \times 10^{-8}$	0
rs2042477	2	96000943	KCNIP3	A	T	0.242	0.94 (0.92–0.96)	−0.066	0.012	$1.38 \times 10^{-8}$	$1.48 \times 10^{-8}$	$3.49 \times 10^{-5}$	$1.38 \times 10^{-8}$	0
rs6808178	3	28705690	LINC00693	T	C	0.379	1.07 (1.05–1.09)	0.066	0.010	$8.09 \times 10^{-12}$	$7.18 \times 10^{-12}$	$8.84 \times 10^{-5}$	$8.09 \times 10^{-12}$	0
rs55961674	3	122196892	KPNA1	T	C	0.172	1.09 (1.06–1.12)	0.086	0.013	$9.98 \times 10^{-12}$	$8.30 \times 10^{-12}$	$2.80 \times 10^{-6}$	$9.98 \times 10^{-12}$	0
rs11707416	3	151108965	MED12L	A	T	0.367	0.94 (0.92–0.96)	−0.063	0.010	$1.13 \times 10^{-10}$	$1.02 \times 10^{-10}$	$2.66 \times 10^{-4}$	$1.77 \times 10^{-7}$	10.9%
rs1450522	3	161077630	SPTSSB	A	G	0.674	0.94 (0.92–0.96)	−0.062	0.010	$5.01 \times 10^{-10}$	$4.90 \times 10^{-10}$	$3.51 \times 10^{-4}$	$2.27 \times 10^{-5}$	24.6%
rs34025766	4	17968811	LCORL	A	T	0.159	0.92 (0.90–0.94)	−0.084	0.013	$2.87 \times 10^{-10}$	$2.82 \times 10^{-10}$	$7.43 \times 10^{-6}$	$2.87 \times 10^{-10}$	0
rs62333164	4	170583157	CLCN3	A	G	0.326	0.94 (0.92–0.96)	−0.064	0.010	$2.00 \times 10^{-10}$	$1.77 \times 10^{-10}$	$5.10 \times 10^{-5}$	$2.17 \times 10^{-5}$	21.3%
rs26431	5	102365794	PAM	C	G	0.703	1.06 (1.04–1.09)	0.062	0.010	$1.57 \times 10^{-9}$	$1.65 \times 10^{-9}$	$6.00 \times 10^{-3}$	$2.36 \times 10^{-7}$	7.9%
rs11950533	5	134199105	C5orf24	A	C	0.102	0.91 (0.88–0.94)	−0.092	0.016	$7.16 \times 10^{-9}$	$6.73 \times 10^{-9}$	$5.08 \times 10^{-4}$	$2.68 \times 10^{-8}$	1.9%
rs9261484	6	30108683	TRIM40	T	C	0.245	0.94 (0.92–0.96)	−0.064	0.011	$1.62 \times 10^{-8}$	$1.43 \times 10^{-8}$	$1.26 \times 10^{-6}$	$1.62 \times 10^{-8}$	0
rs12528068	6	72487762	RIMS1	T	C	0.284	1.07 (1.05–1.09)	0.066	0.010	$1.63 \times 10^{-10}$	$1.79 \times 10^{-10}$	$9.80 \times 10^{-6}$	$1.63 \times 10^{-10}$	0
rs997368	6	112243291	FYN	A	G	0.805	1.07 (1.05–1.10)	0.071	0.012	$1.84 \times 10^{-9}$	$1.97 \times 10^{-9}$	$2.61 \times 10^{-5}$	$1.84 \times 10^{-9}$	0
rs75859381	6	133210361	RPS12	T	C	0.967	0.80 (0.75–0.86)	−0.221	0.034	$1.04 \times 10^{-10}$	$9.67 \times 10^{-11}$	$1.09 \times 10^{-6}$	$1.04 \times 10^{-10}$	0
rs76949143	7	66009851	GS1-124K5.11	A	T	0.051	0.87 (0.82–0.91)	−0.143	0.025	$1.43 \times 10^{-8}$	$1.51 \times 10^{-8}$	$5.47 \times 10^{-9}$	$2.04 \times 10^{-6}$	12.3%
rs2086641	8	130901909	FAM49B	T	C	0.723	0.94 (0.92–0.96)	−0.061	0.011	$1.81 \times 10^{-8}$	$1.57 \times 10^{-8}$	$6.07 \times 10^{-6}$	$1.81 \times 10^{-8}$	0
rs6476434	9	34046391	UBAP2	T	C	0.734	0.94 (0.92–0.96)	−0.062	0.011	$6.58 \times 10^{-9}$	$6.56 \times 10^{-9}$	$2.74 \times 10^{-4}$	$6.58 \times 10^{-9}$	0
rs10748818	10	104015279	GBF1	A	G	0.851	0.92 (0.90–0.95)	−0.079	0.013	$1.05 \times 10^{-9}$	$1.23 \times 10^{-9}$	$7.47 \times 10^{-6}$	$1.05 \times 10^{-9}$	0
rs7938782	11	10558777	RNF141	A	G	0.878	1.09 (1.06–1.12)	0.087	0.015	$2.12 \times 10^{-9}$	$1.97 \times 10^{-9}$	$2.17 \times 10^{-7}$	$2.12 \times 10^{-9}$	0
rs7134559	12	46419086	SCAF11	T	C	0.404	0.95 (0.93–0.97)	−0.054	0.010	$3.96 \times 10^{-8}$	$3.80 \times 10^{-8}$	$1.69 \times 10^{-2}$	$1.84 \times 10^{-5}$	25.2%
rs11610045	12	133063768	FBRSL1	A	G	0.490	1.06 (1.04–1.08)	0.060	0.009	$1.77 \times 10^{-10}$	$1.62 \times 10^{-10}$	$3.57 \times 10^{-5}$	$8.79 \times 10^{-7}$	19.5%
rs9568188	13	49927732	CAB39L	T	C	0.740	1.06 (1.04–1.09)	0.062	0.011	$1.15 \times 10^{-8}$	$1.11 \times 10^{-8}$	$4.29 \times 10^{-6}$	$2.46 \times 10^{-4}$	21.4%
rs4771268	13	97865021	MBNL2	T	C	0.230	1.07 (1.05–1.09)	0.068	0.011	$1.45 \times 10^{-9}$	$1.67 \times 10^{-9}$	$1.41 \times 10^{-4}$	$1.45 \times 10^{-9}$	0
rs12147950	14	37989270	MIPOL1	T	C	0.438	0.95 (0.93–0.97)	−0.053	0.010	$3.54 \times 10^{-8}$	$3.58 \times 10^{-8}$	$1.06 \times 10^{-3}$	$3.54 \times 10^{-8}$	0
rs3742785	14	75373034	RPS6KL1	A	C	0.787	1.07 (1.05–1.10)	0.071	0.012	$1.92 \times 10^{-9}$	$2.08 \times 10^{-9}$	$2.22 \times 10^{-6}$	$8.18 \times 10^{-6}$	24.8%
rs2904880	16	28944396	CD19	C	G	0.309	0.94 (0.92–0.96)	−0.065	0.011	$7.87 \times 10^{-10}$	$8.68 \times 10^{-10}$	$1.39 \times 10^{-5}$	$7.87 \times 10^{-10}$	0
rs6500328	16	50736656	NOD2	A	G	0.599	1.06 (1.04–1.08)	0.059	0.010	$1.82 \times 10^{-9}$	$1.53 \times 10^{-9}$	$1.43 \times 10^{-3}$	$1.82 \times 10^{-9}$	0
rs12600861	17	7355621	CHRNA1	A	C	0.648	0.95 (0.93–0.96)	−0.057	0.010	$1.01 \times 10^{-8}$	$1.15 \times 10^{-8}$	$5.10 \times 10^{-3}$	$1.01 \times 10^{-8}$	0
rs2269906	17	42294337	UBTF	A	C	0.653	1.07 (1.04–1.09)	0.063	0.010	$6.24 \times 10^{-10}$	$8.63 \times 10^{-9}$	$1.17 \times 10^{-5}$	$6.24 \times 10^{-10}$	0
rs850738	17	42434630	FAM171A2	A	G	0.606	0.93 (0.91–0.95)	−0.071	0.011	$1.29 \times 10^{-11}$	$3.55 \times 10^{-10}$	$4.18 \times 10^{-4}$	$2.17 \times 10^{-7}$	17.0%
rs61169879	17	59917366	BRIP1	T	C	0.164	1.09 (1.06–1.11)	0.082	0.013	$9.28 \times 10^{-10}$	$9.40 \times 10^{-10}$	$9.07 \times 10^{-7}$	$6.21 \times 10^{-6}$	16.4%
rs666463	17	76425480	DNAH17	A	T	0.833	1.08 (1.05–1.11)	0.076	0.013	$3.20 \times 10^{-9}$	$2.90 \times 10^{-9}$	$1.62 \times 10^{-5}$	$4.17 \times 10^{-4}$	41.0%
rs1941685	18	31304318	ASXL3	T	G	0.498	1.05 (1.04–1.07)	0.053	0.009	$1.69 \times 10^{-8}$	$1.61 \times 10^{-8}$	$1.64 \times 10^{-8}$	$1.69 \times 10^{-8}$	0
rs8087969	18	48683589	MEX3C	T	G	0.550	0.94 (0.93–0.96)	−0.058	0.010	$1.41 \times 10^{-8}$	$1.46 \times 10^{-8}$	$1.09 \times 10^{-4}$	$1.41 \times 10^{-8}$	0
rs77351827	20	6006041	CRLS1	T	C	0.128	1.08 (1.05–1.11)	0.080	0.014	$8.87 \times 10^{-9}$	$7.94 \times 10^{-9}$	$1.84 \times 10^{-5}$	$4.38 \times 10^{-7}$	11.2%
rs2248244	21	38852361	DYRK1A	A	G	0.283	1.07 (1.05–1.10)	0.071	0.011	$2.74 \times 10^{-11}$	$2.51 \times 10^{-11}$	$6.31 \times 10^{-5}$	$8.78 \times 10^{-6}$	34.3%

Summary statistics for 38 novel genome-wide significant Parkinson's disease variants using data from all available genome-wide association studies.

**Table 1: Novel loci associated with Parkinson's disease**