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Supplementary Table S1. Selected single nucleotide variants typed by NeuroX

Variant Name	NeuroX_ID	Other Name	Data Dictionary Entry
rs114138760	NeuroX_dbSNP_rs114138760		rs114138760 C/G (FWD) G:Ancestral C:Minor
rs76763715	exm106217	*GBA* p.N370S	rs76763715 C/T (FWD) T:Ancestral C:Minor
rs71628662	NeuroX_rs71628662		rs71628662 C/T (FWD) T:Ancestral C:Minor
rs823118	NeuroX_rs823118		rs823118 C/T (FWD) C:Ancestral T:Minor
rs10797576	NeuroX_rs10797576		rs10797576 C/T (FWD) C:Ancestral T:Minor
rs6430538	NeuroX_rs6430538		rs6430538 C/T (FWD) T:Ancestral C:Minor
rs1955337	NeuroX_rs1955337		rs1955337 G/T (FWD) G:Ancestral T:Minor
rs12637471	NeuroX_rs12637471		rs12637471 A/G (FWD) G:Ancestral A:Minor
rs34884217	NeuroX_rs34884217		rs34884217 (G/T) REV T:Ancestral C:Minor
rs34311866	NeuroX_rs34311866		rs34311866 A/G (REV) A:Ancestral C:Minor
rs11724635	NeuroX_rs11724635		rs11724635 A/C (FWD) A:Ancestral A:Minor
rs6812193	exm-rs6812193		rs6812193 C/T (FWD) C:Ancestral T:Minor
rs356181	NeuroX_rs356181		rs356181 C/T (REV) T:Ancestral A:Minor
rs3910105	NeuroX_rs3910105		rs3910105 C/T (REV) T:Ancestral G:Minor
rs8192591	exm535099		rs8192591 A/G (REV) G:Ancestral T:Minor
rs115462410	NeuroX_dbSNP_rs115462410		rs9275326 (was rs115462410) C/T (FWD) C:Ancestral T:Minor
rs199347	NeuroX_rs199347		rs199347 C/T (REV) C:Ancestral G:Minor
rs591323	NeuroX_rs591323		rs591323 A/G (FWD) G:Ancestral A:Minor
rs118117788	NeuroX_dbSNP_rs118117788		rs118117788 C/T (FWD) C:Ancestral T:Minor
rs329648	NeuroX_rs329648		rs329648 C/T (FWD) T:Ancestral T:Minor
rs76904798	NeuroX_rs76904798		rs76904798 C/T (FWD) T:Ancestral T:Minor
rs34995376	NeuroX_rs34995376	*LRRK2* p.R1441H	rs34995376 A/G (FWD) G:Ancestral A:Minor
rs35801418	NeuroX_rs35801418	*LRRK2* p.Y1699C	rs35801418 A/G (FWD) A:Ancestral G:Minor
rs34637584	exm994671	*LRRK2* p.G2019S	rs34637584 A/G (FWD) G:Ancestral A:Minor
rs35870237	NeuroX_rs35870237	*LRRK2* p.I2020T	rs35870237 C/T (FWD) T:Ancestral C:Minor
rs11060180	NeuroX_rs11060180		rs11060180 A/G (FWD) A:Ancestral G:Minor
rs11158026	NeuroX_rs11158026		rs11158026 C/T (FWD) T:Ancestral T:Minor
rs2414739	NeuroX_rs2414739		rs2414739 A/G (FWD) G:Ancestral G:Minor
rs14235	NeuroX_dbSNP_rs14235_replciate_1		rs14235 A/G (FWD) G:Ancestral A:Minor
rs11868035	exm-rs11868035		rs11868035 A/G (FWD) G:Ancestral A:Minor
rs17649553	NeuroX_rs17649553		rs17649553 C/T (FWD) T:Ancestral T:Minor
rs12456492	NeuroX_rs12456492		rs12456492 A/G (FWD) G:Ancestral G:Minor
rs55785911	NeuroX_rs55785911		rs55785911 A/G (FWD) G:Ancestral A:Minor

Supplementary Table S2: Single variant associations from logistic regression for either PD, SWEDD or PD+SWEDD compared to all available controls. Abbreviations include OR for odds ratio, MAF for minor allele frequency, SE for standard error and P for p-value using the same stepwise models as for the GRS-based analyses.

SNP Information					PD					SWEDD					PD + SWEDD				
rsID	C	Position (BP)	Effect/ minor allele	Ref/ major allele	OR	MAF	BETA	SE	P	OR	MAF	BETA	SE	P	OR	MAF	BETA	SE	P
rs114138760	1	154898185	C	G	1.2151	0.0132	0.1949	0.7091	0.7835	1.1818	0.0132	0.1670	1.0629	0.8751	1.3367	0.0132	0.2902	0.6920	0.6750
rs76763715	1	155359992	C	T	7.6228	0.0075	2.0311	1.1358	0.0737	1.5804	0.0075	0.4577	1.5392	0.7662	6.1594	0.0075	1.8180	1.1166	0.1035
rs71628662	1	155359992	C	T	2.0324	0.0169	0.7092	0.6680	0.2884	0.0000	0.0169	-14.37	820	0.9860	2.0213	0.0169	0.7037	0.6678	0.2920
rs823118	1	205723572	C	T	0.9678	0.4211	-0.033	0.1476	0.8244	0.7205	0.4211	-0.328	0.2526	0.1944	0.9550	0.4211	-0.046	0.1406	0.7436
rs10797576	1	232664611	T	C	1.3077	0.1485	0.2683	0.2081	0.1974	1.9789	0.1485	0.6825	0.3214	0.0337	1.4175	0.1485	0.3489	0.2036	0.0866
rs6430538	2	135539967	T	C	0.9434	0.4596	-0.058	0.1419	0.6813	0.7281	0.4596	-0.317	0.2407	0.1873	0.9294	0.4596	-0.073	0.1352	0.5885
rs1955337	2	169129145	T	G	0.9284	0.1485	-0.075	0.1997	0.7100	0.9178	0.1485	-0.086	0.3198	0.7885	0.8676	0.1485	-0.142	0.1924	0.4606
rs12637471	3	182762437	A	G	0.6788	0.1955	-0.388	0.1858	0.0370	0.7325	0.1955	-0.311	0.3165	0.3254	0.7453	0.1955	-0.294	0.1791	0.1007
rs34884217	4	944210	G	T	0.7673	0.0987	-0.265	0.2246	0.2382	0.3793	0.0987	-0.970	0.5030	0.0539	0.7224	0.0987	-0.325	0.2195	0.1385
rs34311866	4	951947	G	A	1.5334	0.2218	0.4275	0.1822	0.0189	2.3743	0.2218	0.8647	0.3049	0.0046	1.6117	0.2218	0.4773	0.1763	0.0068
rs11724635	4	15737101	C	A	0.6708	0.4417	-0.400	0.1443	0.0057	0.8501	0.4417	-0.162	0.2467	0.5102	0.6953	0.4417	-0.363	0.1389	0.0089
rs6812193	4	77198986	T	C	1.0764	0.3637	0.0736	0.1510	0.6260	1.0647	0.3637	0.0627	0.2769	0.8208	1.0296	0.3637	0.0292	0.1448	0.8402
rs356181	4	90626139	T	C	1.6947	0.5009	0.5275	0.1460	0.0003	0.9371	0.5009	-0.065	0.2619	0.8042	1.5164	0.5009	0.4163	0.1382	0.0026
rs3910105	4	90682571	C	T	0.7083	0.4455	-0.345	0.1408	0.0143	1.0973	0.4455	0.0928	0.2357	0.6936	0.7618	0.4455	-0.272	0.1355	0.0447
rs8192591	6	32185796	T	C	1.1950	0.0320	0.1781	0.4385	0.6846	2.4290	0.0320	0.8875	0.6123	0.1472	1.4724	0.0320	0.3869	0.4207	0.3578

Supplementary Table S2 (continued): Single variant associations from logistic regression for either PD, SWEDD or PD+SWEDD compared to all available controls. Abbreviations include OR for odds ratio, MAF for minor allele frequency, SE for standard error and P for p-value using the same stepwise models as for the GRS-based analyses.

SNP Information					PD					SWEDD					PD + SWEDD				
rsID	C	Position (BP)	Effect/ minor allele	Ref/ major allele	OR	MAF	BETA	SE	P	OR	MAF	BETA	SE	P	OR	MAF	BETA	SE	P
rs115462410	6	32666660	T	C	0.5625	0.0827	-0.575	0.2435	0.0181	1.0677	0.0827	0.0655	0.3612	0.8560	0.5883	0.0827	-0.531	0.2274	0.0197
rs199347	7	23293746	C	T	1.0520	0.3910	0.0507	0.1495	0.7344	1.0783	0.3910	0.0753	0.2576	0.7699	1.0092	0.3910	0.0091	0.1437	0.9494
rs591323	8	16697091	A	G	0.8528	0.2637	-0.159	0.1568	0.3098	1.2200	0.2637	0.1988	0.2508	0.4278	0.8907	0.2637	-0.116	0.1481	0.4345
rs118117788	10	121710488	T	C	1.3412	0.0254	0.2936	0.4780	0.5391	0.0000	0.0254	-15.26	896	0.9864	1.2532	0.0254	0.2257	0.4712	0.6319
rs329648	11	133765367	T	C	1.1006	0.3656	0.0959	0.1438	0.5049	0.8699	0.3656	-0.139	0.2574	0.5881	1.0650	0.3656	0.0630	0.1379	0.6478
rs76904798	12	40614434	T	C	1.6953	0.1353	0.5279	0.2355	0.0250	2.3340	0.1353	0.8476	0.3527	0.0163	1.7264	0.1353	0.5461	0.2269	0.0161
rs34637584	12	40734202	A	G	1.3E6	0.0047	14.105	580	0.9806	NA	NA	NA	NA	NA	1.3E6	0.0047	14.086	597	0.9812
rs11060180	12	123303586	G	A	1.0295	0.4445	0.0291	0.1370	0.8317	1.0229	0.0047	0.0226	0.2328	0.9226	0.9946	0.4445	-0.005	0.1325	0.9674
rs11158026	14	55348869	T	C	0.8598	0.3299	-0.151	0.1527	0.3225	0.9536	0.4445	-0.048	0.2780	0.8643	0.9210	0.3299	-0.082	0.1480	0.5780
rs2414739	15	61994134	G	A	0.8445	0.2528	-0.169	0.1580	0.2848	0.6250	0.3299	-0.470	0.2819	0.0955	0.8128	0.2528	-0.207	0.1523	0.1738
rs14235	16	31121793	A	G	1.2289	0.3891	0.2061	0.1533	0.1788	1.3086	0.2528	0.2689	0.2498	0.2816	1.1839	0.3891	0.1688	0.1458	0.2471
rs11868035	17	17715101	A	G	1.0247	0.3017	0.0244	0.1516	0.8721	1.3911	0.3891	0.3301	0.2510	0.1885	1.0900	0.3017	0.0862	0.1469	0.5574
rs17649553	17	43994648	T	C	1.0805	0.2143	0.0775	0.1710	0.6506	1.2443	0.3017	0.2186	0.2850	0.4432	1.0699	0.2143	0.0675	0.1633	0.6792
rs12456492	18	40673380	G	A	0.9891	0.3130	-0.011	0.1500	0.9418	1.0220	0.2143	0.0217	0.2693	0.9356	1.0076	0.3130	0.0075	0.1459	0.9588
rs55785911	20	3153503	A	G	1.2420	0.3647	0.2167	0.1505	0.1499	0.9448	0.3130	-0.057	0.2504	0.8206	1.1993	0.3647	0.1817	0.1460	0.2132