Supplementary Table 1: The current list of locus symbols for hereditary parkinsonism.[1, 2]

Symbol	**Gene locus**	**Gene**	**Inheri-tance**	**Status and remarks**
PARK1	4q21-22	*SNCA*	AD	Confirmed
PARK2	6q25.2-q27	*PARK2 encoding Parkin*	AR	Confirmed
PARK3	2p13	Unknown	AD	Unconfirmed; May represent a risk factor; Gene not found since first described in 1998
PARK4	4q21-q23	*SNCA*	AD	Erroneous locus (identical to *PARK1*)
PARK5	4p13	*UCHL1*	AD	Unconfirmed (not replicated since described in 1998)
PARK6	1p35-p36	*PINK1*	AR	Confirmed

PARK7	1p36	*PARK7 encoding DJ-1*	AR	Confirmed
PARK8	12q12	*LRRK2*	AD	Confirmed; Variations in *LRRK2* gene include risk-conferring variants and disease-causing mutations.
PARK9	1p36	*ATP13A2*	AR	Confirmed
PARK10	1p32	Unknown	Risk factor	N/A
PARK11	2q36-27	Unknown	AD	Initially described mutations in the GIGYF2 gene later found also in controls; no replication studies confirmed GIGYF2 as causative of PD
PARK12	Xq21-q25	Unknown	Risk	N/A

			factor	
PARK13	2p12	*HTRA2*	AD or risk factor	Unconfirmed
PARK14	22q13.1	*PLA2G6*	AR	Confirmed; The majority of cases do not include parkinsonism
PARK15	22q12-q13	*FBX07*	AR	Confirmed
PARK16	1q32	Unknown	Risk factor	N/A
*PARK17**	4p16	VPS35	AD	Confirmed
*PARK18**	6p21.3	ElF4G1	AD	Unconfirmed
*PARK19**	1p31.3	*DNAJC6*	AR	Confirmed
*PARK20**	21q22.11	*SYNJ1*	AR	Confirmed

AD, autosomal dominant; AR, autosomal recessive.

*Not approved by HGNC

Supplementary Table 2: The list of locus symbols for hereditary dystonias[3]

Symbol	**Locus**	***Gene***	**Inheri-tance**	**Comments**
DYT1	9q32-q34	*TOR1A*	AD	Confirmed
DYT2	Missing	Unknown	AR	Unconfirmed; Missing locus, cases are being lumped on the basis of inheritance pattern alone
DYT3	Xq13.1	*TAF1?*	XR	The pathogenicity of TAF1 gene mutations remains unconfirmed.
DYT4	19p13.3	*TUBB4a*	AD	Unconfirmed; (but found in the same family by two independent groups) Missing locus
DYT5a	14q22.1-22.2	*GCH1*	AD	Confirmed
DYT5b	11p15.5	*TH*	AR	Confirmed
	2p14-p12	*SPR*	AR	Not listed
DYT6	8p11.1	*THAP1*	AD	Confirmed
DYT7	18p	Unknown	AD	Unconfirmed (not replicated since first described in 1996)*
DYT8	2q35	*MR1*	AD	Confirmed
DYT9	1p31	*SLC2A1*	AD	Confirmed

DYT10	16p11.2-q12.1	Unknown	AD	Confirmed
DYT11	7q21.3	*SGCE*	AD	Confirmed
DYT12	19q13.2	*ATP1A3*	AD	Confirmed; Not represented in the 'PARK' list
DYT13	1p36	Unknown	AD	Unconfirmed (not replicated since first described in 2001)
DYT14	11p15.5	*GCH1*	AD	Erroneous locus (identical to *DYT5a*)
DYT15	18p11	Unknown	AD	Unconfirmed (not replicated since first described in 2002)
DYT16	2q31.2	*PRKRA*	AR	Confirmed[4]
DYT17	20p11.22-q13.12	Unknown	AR	Unconfirmed (not replicated since symbol in 2008)
DYT18	1p34.2	*SLC2A1*	AD	Identical to *DYT9*
*DYT19***	16q	*PRRT2*	AD	Identical to *DYT10*
*DYT20***	2q	Unknown	AD	Unconfirmed (clinical overlap with PNKD1; locus very close to *DYT8*)
*DYT21***	2q14.3-q21.3	Unknown	AD	Unconfirmed

DYT22	None	None		Symbol officially accepted by HGNC but no associated locus or gene recorded.
DYT23	9q34	*CIZ1*	AD	Unconfirmed
*DYT24***	11p14.2	*ANO3*	AD	Unconfirmed
*DYT25***	18p11.21	*GNAL*	AD	Confirmed

AD, autosomal dominant; AR, autosomal recessive; XR, X-linked recessive

*Unconfirmed but supported by the description of several patients with an 18p deletion syndrome and co-occurrence of dystonia.

**Not approved by HGNC.

Supplementary Table 3: The current list of episodic ataxias [5]

Symbol	**Locus**	**Gene**	**Inheri-tance**	**Status or comments**
EA-1	12p13	*KCNA1*	AD	Confirmed
EA-2	19p13	*CACNA1A*	AD	Confirmed
EA-3	Unconfirmed	Unknown	AD	Linkage to 1q42 proposed[6]
EA-4	Unknown	Unknown	AD	
EA-5	2q22-q23	*CACNB4**	AD	Unconfirmed
EA-6	5p13	*SLC1A3*	AD	Confirmed
EA-7	Unconfirmed	Unknown	AD	Candidate region 19q13 identified[7]

*Allelic to juvenile myoclonic epilepsy

Supplementary Table 4: Current list of SCA loci and genes[8, 9]

	Locus	**Gene**	**Inheri-tance**	**Status or comments**
SCA1	6p23	*ATXN1*	AD	Confirmed
SCA2	12q24.1	*ATXN2*	AD	Confirmed
SCA3	14q21	*ATXN3*	AD	Confirmed
SCA4	16q22.1	-	AD	Unconfirmed
SCA5	11q13	*SPTBN2*	AD	Confirmed
SCA6	19p13	*CACNA1A*	AD	Confirmed
SCA7	3p21.1-p12	*ATXN7*	AD	Confirmed
SCA8	13q21	*ATXN8OS*	AD	Confirmed
SCA9	-	-	AD	Unconfirmed, no locus
SCA10	22q13.31	*ATXN10*	AD	Confirmed
SCA11	15q15.2	*TTBK2*	AD	Confirmed
SCA12	5q32	*PPP2R2B*	AD	Confirmed
SCA13	19q13.33	*KCNC3*	AD	Confirmed

SCA14	19q13.4	*PRKCG*	AD	Confirmed
SCA15	3p26.1	*ITPR1*	AD	Confirmed SCA15 and SCA16 are allelic
SCA16	3p26.1	*ITPR1*	AD	Confirmed SCA15 and SCA16 are allelic
SCA17	6q27	*TBP*	AD	Confirmed
SCA18	7q22-32	-	AD	Unconfirmed
SCA19	1p21-q21	*KCND3*	AD	Confirmed SCA19 and SCA22 are allelic
SCA20	11q12		AD	Unconfirmed
SCA21	7p21.3-p15.1	*TMEM240*	AD	Confirmed
SCA22	1p21-q21	*KCND3*	AD	Confirmed SCA19 and SCA22 are allelic
SCA23	20p13	*PDYN*	AD	Confirmed

SCA24	1p36	-	AR	Autosomal recessive (SCAR4)
SCA25	2p21-p13	-	AD	Unconfirmed
SCA26	19p13.3	*eEF2*	AD	Unconfirmed
SCA27	13q34	*FGF14*	AD	Confirmed
SCA28	18p11	*AFG3L2*	AD	Confirmed
SCA29	3p26	*ITPR1*	AD	Congenital ataxia
SCA30	4q34.3-q35.1	-	AD	Unconfirmed
SCA31	16q21	*BEAN1*	AD	Confirmed Previously referred to as SCA4
SCA32	7q32-33	-	AD	Unconfirmed
SCA34	6p12.3-q16.2	-	AD	Unconfirmed
SCA35	20p13	*TGM6*	AD	Confirmed
SCA36	20p13	*NOP56*	AD	Confirmed
SCA37	1p32	-	AD	Unconfirmed
SCA38	6p	*ELOVL5*	AD	Confirmed[10]

SCA40	14q32	*CCDC88C*	AD	Unconfirmed[11]

Supplementary Table 5: The current list of HD/HDL loci and genes[12]

Locus Symbol	Locus	Gene	Inheritance	Status and remarks
Huntington's disease (HD)	4p16.3	*HTT*	AD	Confirmed
HDL 1	20.p13	*PRNP*	AD	Confirmed
HDL 2	16q24.2	*JPH3*	AD	Confirmed
HDL 3	4p15.3	Unknown	AR	No known gene
HDL 4	6q27	*TBD*	AD	Confirmed. Also known as SCA17;

Supplementary Table 6: Monogenic forms of hereditary spastic paraplegias (HSPs) [13, 14]

Symbol	**Gene locus**	**Inheri-tance**	**Gene**	**status and remarks**
SPG1	Xq28	XR	*L1CAM*	confirmed
SPG2	Xq21	XR	*PLP1*	confirmed
SPG3A	14q11-q21	AD/AR	*ATL1*	confirmed
SPG4	2p22	AD	*SPAST*	confirmed
SPG5A	8q12-q13	AR	*CYP7B1*	confirmed
SPG5B	Linkage to chromosome8	AR	*Unknown*	unconfirmed
SPG6	15q11.1	AD	*NIPA1*	confirmed
SPG7	16q24.3	AR/AD	*SPG7*	confirmed
SPG8	8q24.13	AD	*KIAA0196*	confirmed

SPG9	10q23.3-24.1	AD	*Unknown*	confirmed
SPG10	12q13.3	AD	*KIF5A*	confirmed
SPG11	15q21	AR	*KIAA1840* *Spatacsin*	confirmed
SPG12	19q13	AD	*RTN2*	confirmed
SPG13	2q33.1	AD	*HSPD1*	confirmed
SPG14	3q27-q28	AR	*Unknown*	unconfirmed
SPG15	14q22-q24	AR	*ZFYVE26*	confirmed
SPG16	Xq11.2	XR	Unknown	unconfirmed
SPG17	11q12.3	AD	*BSCL2*	confirmed
SPG18	8p11.23	AR	*ERLIN2*	confirmed
SPG19	9q33-q34	AD	Unknown	unconfirmed
SPG20	13q12.3	AR	*Spartin*	confirmed
SPG21	15q22.31	AR	*ACP33*	confirmed
SPG22	Xq13.2	XR	*SLC16A2*	confirmed
SPG23	1q24-q32	AR	Unknown	confirmed

SPG24	13q14	AR	Unknown	unconfirmed
SPG25	6q23.3-q24.1	AR	Unknown	unconfirmed
SPG26	12p11.1-q14	AR	*B4GALNT1*	confirmed
SPG27	10q22.1-q24.1	AR	Unknown	unconfirmed
SPG28	14q22.1	AR	*DDHD1*	confirmed
SPG29	1p31.1-21.1	AD	Unknown	unconfirmed
SPG30	2q37	AR	*KIF1A*	confirmed
SPG31	9p21	AD	*REEP1*	confirmed
SPG32	14q12-q21	AR	Unknown	unconfirmed
SPG33	10q24.2	AD	*ZFYVE27*	confirmed
SPG34	Xq25	XR	Unknown	unconfirmed
SPG35	16q23.1	AR	*FA2H*	confirmed
SPG36	12q23-24	AD	Unknown	unconfirmed
SPG37	8p21.1-q13.3	AD	Unknown	unconfirmed

SPG38	4p16-p15	AD	Unknown	unconfirmed
SPG39	19p13.2	AR	*PNPLA6/NTE*	confirmed
SPG40	Unknown, several loci excluded	AD	Unknown	unconfirmed
SPG41	11p14.1-p11.2	AD	Unknown	unconfirmed
SPG42	3q24-q26	AD	*SLC33A1*	unconfirmed
SPG43	19q12	AR	*C19orf12*	confirmed
SPG44	1q42.13	AR	*GJC2* or *GJA12*	unconfirmed
SPG45	10q24.3-q25.1	AR	*NT5C2*	confirmed
SPG46	9p13.3	AR	*GBA2*	confirmed
SPG47	1p13.2-	AR	*AP4B1*	confirmed
SPG48	7p22.1	AR	*KIAA0415*	confirmed
SPG49	14q32.31	AR	*TECPR2*	confirmed

SPG50	7q22.1	AR	*AP4M1*	confirmed
SPG51	15q21.2	AR	*AP4E1*	confirmed
SPG52	14q12	AR	*AP4S1*	unconfirmed
SPG53	8p22	AR	*Vps37A*	unconfirmed
SPG54	8p11.23	AR	*DDHD2*[15]	confirmed
SPG55	12q24	AR	*C12orf65*	confirmed
SPG56	4q25	AR	*CYP2U1*	unconfirmed
SPG57	3q12.2	AR	*TFG*[16]	unconfirmed
SPG58	17p13.2	AR	*KIF1C*[17]	confirmed
SPG59	15q21.2	AR	*USP8*[17]	unconfirmed
SPG60	3p22.2	AR	*WDR48*[17]	unconfirmed
SPG61	16p12.3	AR	*ARL6IP1*[17]	unconfirmed
SPG62	10q24.31	AR	*ERLIN1*[17]	confirmed
SPG63	1p13.3	AR	*AMPD2*[17]	unconfirmed
SPG64	10q24.1	AR	*ENTPD1*[17]	unconfirmed
SPG65	10q24.32	AR	*NT5C2*[17]	Also designated SPG45

SPG66	5q32	AR	*ARSI*[17]	unconfirmed
SPG67	2q33.1	AR	*PGAP1*[17]	unconfirmed
SPG68	11q13.1	AR	*FLRT1*[17]	unconfirmed
SPG69	1q41	AR	*RAB3GAP2*[17]	unconfirmed
SPG70	12q13.3	AR	*MARS*[17]	unconfirmed
SPG71	5p13.3	AR	*ZFR*[17]	unconfirmed
SPG72	5q31.2	AD/AR	*REEP2*[18]	unconfirmed

AD, autosomal dominant; AR, autosomal recessive, XR, X chromosome recessive.

Supplementary Table 7: The previous list of locus symbols for primary familial brain calcification[19, 20]

Symbol	Gene locus	Inheritance	Gene symbol	Status and remarks
IBGC1	14q13	AD	-	Incorrect - Family later found to have a mutation in SLC20A2.
IBGC2	2q37	AD	-	Linkage to this locus found in one family. [21] Awaits independent confirmation.
IBGC3	8p21.1–8q11.23	AD	*SLC20A2*	Confirmed
IBGC4	5q32	AD	*PDGFRB*	Mutations found in one family, segregating with phenotype and one sporadic case.[22] Awaits independent confirmation.
	22q13	AD	*PDGFB*	Mutations found in six families of varying ethnic origins.[23] Awaits independent confirmation. No locus symbol assigned.
	1q25.1	AD	*XPR1*	Mutations found in one family[24]

				Awaits confirmation. No locus symbol assigned

Supplementary Table 8: The current list of neurodegeneration with brain iron accumulation disorders[25]

Symbol	**Gene locus**	**Inheritance**	**Gene symbol**	**Status and remarks**
NBIA1	20p13	AR	*PANK2*	Confirmed, also called PKAN
NBIA2	22q12	AR	*PLA2G6*	Confirmed, also called PARK14, PLAN
NBIA3	19q13	AD	*FTL*	Confirmed, also called neuroferritinopathy
NBIA4	19q12	AR	*C19orf12*	Confirmed, also called SPG43 and MPAN
NBIA5	Xp11.23	X-linked dominant	*WDR45* (also known as WIPI4)	Confirmed also called SENDA and BPAN.
Symbol	**Gene locus**	**Inheritance**	**Gene symbol**	**Status and remarks**
NBIA1	20p13	AR	*PANK2*	Confirmed, also called

				PKAN
NBIA2	22q12	AR	*PLA2G6*	Confirmed, also called PARK14, PLAN
NBIA3	19q13	AD	*FTL*	Confirmed, also called neuroferritinopathy
NBIA4	19q12	AR	*C19orf12*	Confirmed, also called SPG43 and MPAN
NBIA5	Xp11.23	X-linked dominant	*WDR45* (also known as WIPI4)	Confirmed also called SENDA and BPAN.

FA2H = fatty acid 2-hydroxylase, FTL = ferritin light chain, MPAN – mitochondrial membrane-associated neurodegeneration; NBIA = Neurodegeneration with brain iron accumulation, PANK2 = Pantothenate kinase 2, PKAN = pantothenate kinase-associated neurodegeneration, PLA2G6 = phospholipase A2, PLAN = PLA2G2-associated neurodegeneration, SENDA = static encephalopathy of childhood with neurodegeneration in adulthood, BPAN = Beta-propeller protein-associated neurodegeneration ; SPG = spastic paraplegia.

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