

Supplementary Table 1: Discovery cohort PPMS patients and 2010 International Panel Criteria

Patient ID	Sex	Age of onset	Progression since onset without relapses	Elevated IgG index	Oligoclonal bands (OCBs)	Positive CSF (OCBs or elevated IgG index)	Brain lesions consistent with MS	Spinal cord lesions consistent with MS	Gadolinium enhancement on MRI	Meets 2010 International Panel Criteria for PPMS	Whole-genome sequencing (CGI)	MS Replication Chip	Peripheral neuropathy in medical history	Family history of MS	Family history of other neurologic disorders	Family history notes
020020-0001	F	26	+	+	+	+	+	ND	-	Yes	+	-	-	-	-	
020069-0001	F	37	+	ND	ND	ND	+	+	-	Yes	+	-	-	-	-	
041130-0001	F	48	+	+	+	+	+	+	-	Yes	+	-	-	-	-	
041225-0001	F	51	+	+	+	+	+	+	-	Yes	+	-	-	-	-	
041247-0001	F	49	+	+	+	+	+	+	-	Yes	+	-	-	-	-	
041282-0001	F	46	+	+	+	+	+	+	-	Yes	+	-	-	-	-	Mother with parkinsonism
041377-0001	M	33	+	ND	+	+	+	-	-	Yes	+	-	-	-	-	Father with Alzheimer's
041854-0001	F	45	+	ND	+	+	+	+	-	Yes	+	-	-	-	-	
070036-0001	F	48	+	+	+	+	+	+	-	Yes	+	-	-	-	-	
120047-0001	M	26	+	ND	ND	ND	+	+	-	Yes	+	-	-	-	-	
120089-0001	M	34	+	-	+	+	+	+	-	Yes	+	-	-	-	-	
220012-0001	M	46	+	+	+	+	+	+	+	Yes	+	-	-	-	-	
610022-0001	F	47	+	+	+	+	+	ND	+	Yes	+	-	-	-	-	
040007-0001	M	48	+	+	-	+	+	+	-	Yes	+	+	-	-	-	Cousin with progressive paraparesis
041161-0001	M	44	+	-	-	-	+	+	-	Yes	+	+	-	+	-	Aunt with MS
041268-0001	M	26	+	+	-	+	+	ND	-	Yes	+	+	-	-	-	
041278-0001	F	51	+	-	-	-	+	+	-	Yes	+	+	-	-	-	
041287-0001	F	36	+	+	+	+	+	+	-	Yes	+	+	-	-	-	1st degree relative with epilepsy
041548-0001	M	27	+	+	ND	+	+	+	-	Yes	+	+	-	-	-	
041562-0001	F	44	+	+	+	+	+	+	-	Yes	+	+	-	-	-	Father with stroke
041776-0001	M	42	+	-	-	+	+	ND	+	Yes	+	+	-	-	-	Migraine headaches
510009-0001	F	34	+	+	-	+	+	+	-	Yes	+	+	-	-	-	
600129-0001	M	41	+	ND	ND	ND	+	+	-	Yes	+	+	-	-	-	Mother has seizures and dementia.
600256-0001	M	33	+	+	+	+	+	-	-	Yes	+	+	-	+	-	Father with MS, rheumatoid arthritis, Behcet's, asthma, Crohn's, hay fever.
600316-0001	F	51	+	+	+	+	+	-	-	Yes	+	+	-	-	+	1st degree relatives with epilepsy, schizophrenia. Mother with stroke and myeloproliferative disorder.
600385-0001	F	47	+	+	+	+	+	-	-	Yes	+	+	-	-	-	Parkinson Disease.
600428-0001	F	41	+	-	-	-	+	+	-	Yes	+	+	-	-	-	
600444-0001	M	55	+	+	+	+	+	-	+	Yes	+	+	-	-	-	
600506-0001	F	35	+	ND	ND	ND	+	+	-	Yes	+	+	-	-	+	Mother with ALS
600582-0001	M	54	+	ND	ND	ND	+	+	-	Yes	+	+	-	-	-	
610005-0001	M	52	+	+	+	+	+	+	-	Yes	+	+	-	-	-	
650001-0001	F	52	+	+	+	+	+	+	-	Yes	+	+	-	-	-	
650008-0001	F	50	+	+	+	+	+	+	-	Yes	+	+	-	-	-	
650011-0001	M	28	+	ND	ND	ND	+	+	-	Yes	+	+	-	-	-	
650053-0001	M	36	+	+	+	+	+	+	+	Yes	+	+	-	-	+	Grandfather with unspecified neurologic disorder affecting legs
650075-0001	F	51	+	ND	ND	ND	+	+	-	Yes	+	+	-	-	+	Mother with stroke
650084-0001	F	48	+	-	+	+	+	-	-	Yes	+	+	-	-	-	
650319-0001	F	25	+	+	+	+	+	+	-	Yes	+	+	-	+	-	Maternal aunt with MS
020010-0001	F	39	+	+	+	+	+	ND	-	Yes	+	+	-	+	-	Cousin with MS
040025-0001	M	22	+	+	-	+	+	ND	-	Yes	-	+	-	-	-	
041624-0001	F	29	+	-	-	+	+	+	-	Yes	-	+	-	-	+	Family history of bipolar disorder, migraines, depression
041770-1000	M	53	+	+	-	+	+	-	-	Yes	-	+	-	+	-	
150057-0001	F	37	+	+	+	+	+	-	-	Yes	-	+	-	-	-	
1580-0001	M	28	+	+	ND	+	+	ND	-	Yes	-	+	-	+	+	Sister with MS. Mother with stroke, epilepsy
510014-0001	M	64	+	+	+	+	+	ND	-	Yes	-	+	-	-	+	Father with Parkinson's
510021-0001	M	44	+	+	+	+	+	-	-	Yes	-	+	-	-	-	
600031-0001	M	28	+	ND	ND	ND	+	+	+	Yes	-	+	-	-	+	Migraine headaches
600216-0001	M	60	+	+	-	+	+	+	-	Yes	-	+	-	-	-	
600334-0001	F	42	+	+	+	+	+	ND	-	Yes	-	+	-	-	+	Parkinson's
650016-0001	F	62	+	+	+	+	+	-	-	Yes	-	+	-	-	-	
650026-0001	M	66	+	-	+	+	+	-	-	Yes	-	+	-	+	+	Cousin with ALS, cousin's daughter with MS.
650027-0001	M	32	+	ND	ND	ND	+	+	-	Yes	-	+	-	-	-	
650056-0001	M	49	+	-	+	+	+	-	-	Yes	-	+	-	-	+	Father with stroke
650095-0001	M	34	+	ND	ND	ND	+	+	-	Yes	-	+	-	+	-	MS in paternal first cousin
650097-0001	F	38	+	ND	ND	ND	+	+	-	Yes	-	+	-	-	+	Father with partial myelitis
650139-0001	M	36	+	ND	ND	ND	+	+	-	Yes	-	+	-	-	-	
650142-0001	M	51	+	ND	ND	ND	+	+	-	Yes	-	+	-	-	-	
650304-0001	M	32	+	+	-	+	+	+	+	Yes	-	+	-	+	-	Father's cousin with MS
650320-0001	M	47	+	+	+	+	+	+	-	Yes	-	+	-	-	-	
650323-0001	M	40	+	+	+	+	+	+	-	Yes	-	+	-	-	-	
700019-0001	F	61	+	+	+	+	+	+	+	Yes	-	+	-	-	-	