

Paper	PMID	Population	PD					Control						Data status						
			Total	mild	severe	homo/compound	unknown	details	Total	mild	severe	homo/compound	unknown	details	comments	AAO	Mutation	Severe/mild	AAO	SD
Aharon 2004 NEJM	15525722	Ashkenazi- Jews	99	24	4	3		N370S/N370S - 3, N370S/wt - 23, R496H - 1, 84GG - 4	1543	92	3				N370S/wt - 92, 84GG - 3		no data			
Sato 2005 Mov disord	15517592	Caucasian Canadian	88	1	4			N370S/wt - 1, L444P - 1, RecTI - 3	122	1					N370S/wt - 1		N370S	mild	52	
																	RecNcil	Severe	31	
																	RecNcil	Severe	38	
																	RecNcil	Severe	35	
																	L444P	Severe	32	
Eblan 2006 Mov disord	16261622	Venezuela	33	1	3			N370S/wt - 1, RecNcil - 2, L444P - 1	31						D443N - 1 1		N370S	mild	29	
																	RecNcil	Severe	34	
																	RecNcil	Severe	36	
																	L444P	Severe	47	
Toft 2006 Neurology	16476943	Norway	311	4	3			N370S/wt - 4, L444P - 3	474	7	1				N370S/wt - 7, L444P - 1		N370S	mild	63	
																	N370S	mild	40	
																	N370S	mild	62	
																	N370S	mild	49	
																	L444P	severe	55	
																	L444P	severe	59	
																	L444P	severe	70	
Ziegler 2007 Mol Genet Metab	17462935	Chinese	92		2			L444P - 1, D409H - 1, L174P - 1, Q497R - 1	92						V460M - 1 1		L174P	unknown	58	
																	Q497R	unknown	63	
																	L444P	severe	64	
																	D409H	severe	67	

<p>Tan 2007 Arch Neurol</p> <p>17620502 Chinese</p>	<p>331</p> <p>8</p> <p>L444P - 8</p>	<p>347</p>	<p>L444P severe 40</p> <p>L444P severe 43</p> <p>L444P severe 44</p> <p>L444P severe 60</p> <p>L444P severe 29</p> <p>L444P severe 58</p> <p>L444P severe 45</p> <p>L444P severe 70</p>
<p>Wu 2007 J Neurol Neuroserg Psych</p> <p>17702778 Taiwanese</p>	<p>518</p> <p>16</p> <p>L444P - 13, RecNcil - 2, R120W - 1</p>	<p>339</p>	<p>L444P severe 60</p> <p>L444P severe 29</p> <p>L444P severe 57</p> <p>L444P severe 57</p> <p>L444P severe 46</p> <p>L444P severe 64</p> <p>L444P severe 67</p> <p>L444P severe 55</p> <p>L444P severe 46</p> <p>L444P severe 64</p> <p>L444P severe 30</p> <p>L444P severe 50</p> <p>L444P severe 40</p> <p>RecNcil severe 34</p> <p>RecNcil severe 49</p> <p>R120W severe 62</p>
<p>Spitz 2007 Parkinsonism relat disord</p> <p>17703984 Brazilian</p>	<p>65</p> <p>2</p> <p>L444P - 1, L444P + E326K - 1</p>	<p>267</p>	<p>L444P severe 46</p> <p>L444P + E326K severe 42</p>

Clark 2007 Neurology	17875915	Jewish	178	21	5	3	1	84GG - 5, N370S - 21 (including 2 homozygotes), R496H - 1, T369M - 1, E326K - 1, P175P - 1 (homozygote),	85	4	N370S - 3, T369M - 2, E326K - 1	2	1	no data
		Non- Jewish	100	2	4		2	N370S - 2, T369M - 2, RecNcil - 1, D409H - 1, L444P - 2	94		T369M - 1, ?	2		no data
De Marco 2008 Mov disord	18074383	South Italy	395	3	8			N370S - 3, L444P - 8	483	1			L444P - 1	no data
Mata 2008 Arch Neurol	18332251	North America	721	11	10			N370S - 11, L444P - 10	554	2			N370S - 2	N370S mild 47 N370S mild 65 N370S mild 54 N370S mild 52 N370S mild 58 N370S mild 73 N370S mild 43 N370S mild 48 N370S mild 50 N370S mild 60 N370S mild 82 L444P Severe 48 L444P Severe 60 L444P Severe 72 L444P Severe 57 L444P Severe 51 L444P Severe 64 L444P Severe 42 L444P Severe 61 L444P Severe 64 L444P Severe 36
Bras 2009 Neurobiol Aging	18160183	Portugal	230	10	4			N370S - 5, N396T - 5, L444P - 3, D409H - 1	430	3			N370S - 3	no data

Neumann
2009 Brain 19286695 UK

790 8 19

L444P - 11,
D443N - 1,
R463C - 3,
RecNcil - 2,
RecA456P - 1,
N370S - 8,
D409H - 1,
D380A - 1,
del55 - 1,
R257Q - 1,
G193E - 1,
R131C - 1,
K7E - 1

6

257 1 1

N370S -
1, R257Q
- 1,
V458L - 1

1

L444P	Severe	34
K7E	unknown	48
L444P	Severe	43
N370S	mild	57
N370S	mild	54
L444P	Severe	41
N370S	mild	53
N370S	mild	57
D380A	Severe	56
D443N	unknown	43
del55	Severe	26
G193E	unknown	49
R131C	Severe	56
N370S	mild	69
L444P	Severe	50
RecA456P	unknown	48
R463C	Severe	61
R463C	Severe	35
N370S	mild	79
N370S	mild	64
L444P	Severe	60
R463C	Severe	61
L444P	Severe	57
D409H	Severe	44
R257Q	Severe	58
L444P	Severe	58
RecNcil	Severe	58
L444P	Severe	52
L444P	Severe	37
N370S	mild	68
L444P	Severe	59

Kalinderi 2009 Neurosci Let	19383421	Greek	172	2	7	2	L444P - 2, D409H - 1, E326K - 1, H255Q - 4, R329H - 1, S271G - 1, T482K - 1	132	1	3	E326K - 1, T482K - 1, V460L - 2	no data		
Mitsui 2009 Arch Neurol	19433656	Japanese	534	6	39	5	R120W - 15, R131C - 1, N188S - 4, R120W rec - 1, G193W - 1, F213I - 1, R329C - 2, L444P - 8, RecNcil - 14, A456P rec - 1, R496C - 2	544		2	RecNcil - 2	R120W (15 patients) L444P + RecNcil (22 patients) Severe Severe	51.8 52.6	8.2 6.9
Mao 2009 Neurosci Let	20004703	Chinese	616		20		L444P - 1	411		1	L444P - 1	L444P (20 patients) Severe	54.9	11.97
Sun 2010 Mov disord	20131388	Chinese	402		11		L444P - 11	413				L444P Severe 53 L444P Severe 59 L444P Severe 59 L444P Severe 59 L444P Severe 68 L444P Severe 55 L444P Severe 53 L444P Severe 60 L444P Severe 41		
Lesage 2011 Neurology	21242499	North African	194	2	5	2	K(-27)R - 2, R131C - 2, N370S - 2, L444Prec - 1, RecNcil - 2	177		1	D443N	K(-27)R unknown 36 K(-27)R unknown 64 R131C Severe 38 R131C Severe 41 N370S mild 50 N370S mild 56		

												L444P-E326K complex allele	Severe	34			
												RecNcil	Severe	61			
												RecNcil	Severe	69			
Lesage 2011 Hum Mol Genet	20947659	European	1130	37	24	5	10	K(-27)R - 1, G80R - 1, I119L - 1, R120W - 1, S125N - 1, R131C - 1, S173fs - 1, G202R - 2, P246L - 1, Y304C - 1, T323I - 1, R329C - 2, S364N - 1, N370S - 33, G377S - 1, E388K - 1, D409H - 1, L444P - 11, P452L - 1, R463C - 1, R463H - 1, G112A - 1, RecNcil - 2, L444Prec - 1, RecTL - 1, D104H rec - 1	391	3		K79M - 1, N370S - 2, G377S	1	- 1	no data		
Huang 2011 Eur J Neurol	21338444	Taiwanese	967		36			D409H - 2, L444P - 27, RecNcil - 7	780		2	L444P - 1, RecNcil - 1	All carriers (all severe)	D409H - 2, L444P - 27, RecNcil - 7	Severe	49.69	11.3
Noreau 2011 Can J Neurol Sci	21856586	French Canadian	212	5	6		11	L197F - 1, E326K - 5, S339L - 1, T369M - 9, W378G - 1, L444P - 5	189	5	1	N370S - 2, E326K - 3, T369M - 5, L444P - 1	5	- 1	no data		
Moraitou 2011 Genet Metab	21745757	Greek	205	6	15			N370S - 6, L444P - 6, H255Q - 1, D409H - 1, D409H+ - 6, IVS10-1 - 1	206	4	2	N370S - 4, L444P - 1, H255Q - 1, Y108C - 1	1	- 1	H255Q	Severe	58
															N370S	mild	40
															N370S	mild	53
															N370S	mild	60

												D409H	Severe	50		
												D409H	Severe	56		
												L444P	Severe	56		
												L444P	Severe	56		
												L444P	Severe	48		
												L444P	Severe	57		
												L444P	Severe	48		
												L444P	Severe	46		
												RecNcil	Severe	51		
												S488T	unknown	56		
Emelyanov 2012 Mov Disord	21915911	Russian	330	3	6		N370S - 3, L444P - 6	240	1		L444P - 1	no data				
Guimarães 2012 Parkinsonism relat disord	22192918	Brazilian	347	5	8		N370S - 5, L444P - 8	341				N370S (5 patients)	N370S	mild	54.6	13.3
												L444P (8 patients)	L444P	severe	47	9.6
Kumar 2012 Eur J Neurol	22812582	Serbian	360	7	10	2	N370S - 7, D409H - 6, L444P - 2, R463C -1, RecNCil - 1	348	3		D409H - 2, L444P - 1, A456P - 1	All mild carriers (n=7) All severe carriers (n=10)	mild	56.17	7.63	
													Severe	45.1	8.32	
Choi 2012 Neurosci let	22387070	Korean	277	3	7	2	R163Q - 1, N188S - 1, P201H - 1, P257Q - 3, S271G - 2, R277C - 1, F347L - 1, L444P - 2	291					R163Q	unknown	42	
													N188S	Severe	35	
													P201H	Severe	37	
													R257Q	Severe	46	
													R257Q	Severe	73	
													R257Q	Severe	58	
													S271G	mild	49	
													S271G	mild	54	
													R277C	mild	62	
													F347L	unknown	39	
													L444P	Severe	40	
													L444P	Severe	45	

Current study	Ashkenazi-Jewish	1000	136 (including 13 carriers of LRRK2 G2019S mutation, should be omitted)	44	12	84GG - 21, IVS2+1 - 5, L444P - 3, N370S - 120 including 11 LRRK2 carriers, R496H - 16 including 2 LRRK2 carriers), RecTL - 8, V394L - 7	3805	224	17	1	N370S - 224, 84GG - 6, IVS2+1 - 1, V394L - 4, L444P - 4, RecTL - 2	N370S	mild	50
												N370S	mild	41
												N370S	mild	56
												N370S	mild	61
												N370S	mild	39
												N370S	mild	53
												N370S	mild	50
												N370S	mild	50
												N370S	mild	48
												N370S	mild	69
												N370S	mild	72
												N370S	mild	77
												N370S	mild	76
												N370S	mild	46
												N370S	mild	56
												N370S	mild	70
												N370S	mild	48
												N370S	mild	58
												N370S	mild	50
												N370S	mild	69
												N370S	mild	35
												N370S	mild	55
												N370S	mild	43
												N370S	mild	72
												N370S	mild	55
												N370S	mild	57
												N370S	mild	68
												N370S	mild	59
												N370S	mild	51
												N370S	mild	78
												N370S	mild	44
												N370S	mild	62
												N370S	mild	46
												N370S	mild	67
												N370S	mild	69

N370S	mild	71
N370S	mild	57
N370S	mild	71
N370S	mild	55
N370S	mild	53
N370S	mild	60
N370S	mild	65
N370S	mild	72
N370S	mild	56
N370S	mild	59
N370S	mild	30
N370S	mild	47
N370S	mild	62
N370S	mild	51
N370S	mild	54
N370S	mild	46
N370S	mild	66
N370S	mild	47
N370S	mild	69
N370S	mild	70
N370S	mild	76
N370S	mild	66
N370S	mild	50
N370S	mild	64
N370S	mild	74
N370S	mild	64
N370S	mild	61
N370S	mild	66
N370S	mild	52
N370S	mild	60
N370S	mild	79
N370S	mild	52
N370S	mild	54
N370S	mild	64
N370S	mild	44
N370S	mild	58
N370S	mild	56
N370S	mild	54
N370S	mild	55
N370S	mild	63
N370S	mild	51
N370S	mild	60
N370S	mild	43
N370S	mild	73
N370S	mild	67

N370S	mild	63
N370S	mild	40
N370S	mild	56
N370S	mild	66
N370S	mild	74
N370S	mild	75
N370S	mild	62
N370S	mild	52
N370S	mild	59
N370S	mild	58
N370S	mild	59
N370S	mild	70
N370S	mild	76
N370S	mild	57
N370S	mild	58
N370S	mild	39
N370S	mild	66
N370S	mild	56
N370S	mild	44
N370S	mild	71
N370S	mild	73
N370S	mild	52
N370S	mild	39
N370S	mild	65
N370S	mild	53
N370S	mild	63
N370S	mild	67
N370S	mild	78
R496H	mild	67
R496H	mild	48
R496H	mild	46
R496H	mild	50
R496H	mild	64
R496H	mild	55
R496H	mild	73
R496H	mild	54
R496H	mild	64
R496H	mild	73
R496H	mild	55
R496H	mild	53
R496H	mild	62
R496H	mild	50
84GG	severe	56
84GG	severe	64
84GG	severe	54

84GG	severe	55
84GG	severe	53
84GG	severe	43
84GG	severe	72
84GG	severe	71
84GG	severe	70
84GG	severe	44
84GG	severe	48
84GG	severe	49
84GG	severe	68
84GG	severe	46
84GG	severe	61
84GG	severe	41
84GG	severe	64
84GG	severe	73
84GG	severe	54
84GG	severe	60
84GG	severe	61
IVS2+1	severe	47
IVS2+1	severe	46
IVS2+1	severe	69
IVS2+1	severe	61
IVS2+1	severe	52
L444P	severe	50
L444P	severe	60
L444P	severe	72
RecTL,N370S/+	severe	55
RecTL,N370S/+	severe	55
RecTL,N370S/+	severe	44
RecTL,N370S/+	severe	60
RecTL,N370S/+	severe	52
RecTL,N370S/+	severe	58
RecTL,N370S/+	severe	62
RecTL,N370S/+	severe	57
V394L	severe	45
V394L	severe	46
V394L	severe	67
V394L	severe	74
V394L	severe	49

									V394L	severe	35	
									V394L	severe	51	
Wang 2012 Behav Brain Funct	23227814	Central Chinese	208	7	L444P - 7	298	1	L444P - 1	Only scanned the L444P, N370S and R120W mutations	no data		
Zhang 2012 Chinese Journal of Physiology	23286447	Chinese	195	6	L444P - 6	443			Only scanned the L444P, N370S and R120W mutations			
										L444P	severe	56
										L444P	severe	63
										L444P	severe	54
										L444P	severe	64
										L444P	severe	63
										L444P	severe	72
Gonzalez- Del Rincon Mde 2013 Clin Genet	23448517	Mexican	128	7	L444P - 7	252			Only scanned the L444P and N370S mutations	AAO<45		
										L444P	severe	36
										L444P	severe	28
										L444P	severe	44
										L444P	severe	43
										L444P	severe	29
										L444P	severe	42
										L444P	severe	42