

**Supplementary Table 1 – Data of patients and control individuals included in the discovery study.** Individual sample codes (in italic) and demographic parameters are indicated for all the samples. Clinical parameters are indicated in the disease group. For each group it is indicated an overall characterization of the group with the indication of the mean values, intervals, and gender distribution (indicated in bold).

	<b>Age at blood coll. (y)<sup>a</sup></b>	<b>Gender<sup>b</sup></b>	<b>Disease Duration (y)</b>	<b>Age at Onset (y)</b>	<b>Family history<sup>c</sup></b>	<b>HY scale<sup>d</sup></b>	<b>Total L-Dopa (converted CR + IR) (mg/day)<sup>e</sup></b>
<i>PD10</i>	63	F	15.0	48	N	1.5	400
<i>PD24</i>	63	F	9.0	54	Y	2	475
<i>PD35</i>	63	F	1.5	62	N	2	300
<i>PD11</i>	64	M	2.0	62	N	1	300
<i>PD38</i>	64	M	10.0	54	N	2	400
<i>PD32</i>	67	M	10.0	57	N	4	300
<i>PD34</i>	68	M	5.0	63	N	1	200
<i>PD39</i>	69	M	1.5	68	N	1	300
<i>PD33</i>	70	M	2.0	68	N	1	0
<i>PD23</i>	71	M	10.0	61	N	2	300
<i>PD29</i>	72	F	1.0	71	N	1.5	150
<i>PD30</i>	72	M	6.0	66	N	1	400
<i>PD14</i>	73	F	4.0	69	N	1	300
<i>PD16</i>	73	M	7.0	66	N	1	200
<i>PD15</i>	74	F	7.0	67	N	1	300
<i>PD18</i>	75	M	0.7	74	N	1	50
<i>PD8</i>	76	F	2.0	74	N	3	733
<i>PD17</i>	76	F	8.0	68	N	1	850
<i>PD7</i>	77	M	10.0	67	N	4	1033
<i>PD28</i>	77	M	8.0	69	N	3	200
<i>PD31</i>	77	M	6.0	71	N	2	150
<i>PD36</i>	77	M	2.0	75	N	2.5	1150
<i>PD6</i>	78	M	3.0	75	N	1	650
<i>PD19</i>	79	M	4.0	75	N	1	650
<i>PD21</i>	79	M	12.0	67	N	1	0
<i>PD26</i>	80	F	7.0	73	N	4	300
<i>PD27</i>	80	F	4.0	76	N	3	200
<i>PD12</i>	81	F	11.0	70	N	1.5	725

**Parkinson's Disease Group**

	PD22	84	F	9.0	75	N	1	400
	PD25	85	F	10.0	75	N	3	200
	PD20	86	F	6.0	80	N	2	-
	<b>Group overview</b>	<b>74±7 [63, 83]</b>	<b>M:17 (54.8%) F: 14 (45.2%)</b>	<b>6.2±3.8 [0.7, 15]</b>	<b>67.7±7.4 [48, 80]</b>	<b>N: 30 Y:1</b>	<b>1.8±1 [1, 4]</b>	<b>374.7±288.7 [0, 1150]</b>
Control Group	Ctrl29	55	M	-	-	-	-	-
	Ctrl34	56	F	-	-	-	-	-
	Ctrl12	57	M	-	-	-	-	-
	Ctrl13	57	F	-	-	-	-	-
	Ctrl14	57	M	-	-	-	-	-
	Ctrl16	57	M	-	-	-	-	-
	Ctrl17	57	M	-	-	-	-	-
	Ctrl31	57	F	-	-	-	-	-
	Ctrl32	57	M	-	-	-	-	-
	Ctrl10	60	M	-	-	-	-	-
	Ctrl27	60	F	-	-	-	-	-
	Ctrl18	61	M	-	-	-	-	-
	Ctrl24	62	F	-	-	-	-	-
	Ctrl38	62	F	-	-	-	-	-
	Ctrl15	64	M	-	-	-	-	-
	Ctrl6	65	F	-	-	-	-	-
	Ctrl7	70	M	-	-	-	-	-
	Ctrl39	73	F	-	-	-	-	-
	Ctrl26	74	F	-	-	-	-	-
	Ctrl37	75	F	-	-	-	-	-
	Ctrl28	77	M	-	-	-	-	-
	Ctrl30	77	M	-	-	-	-	-
	Ctrl35	78	M	-	-	-	-	-
	Ctrl23	79	M	-	-	-	-	-
	Ctrl11	81	M	-	-	-	-	-
	Ctrl20	81	F	-	-	-	-	-
Ctrl36	81	F	-	-	-	-	-	
Ctrl8	83	M	-	-	-	-	-	
	<b>Group overview</b>	<b>67±10 [55, 83]</b>	<b>M: 16 (57.1%) F: 12 (42.9%)</b>	-	-	-	-	-

<sup>a</sup>Age at blood coll. (y): age at blood collection in years; <sup>b</sup>The individuals were divided into males (M) and females (F); <sup>c</sup>Number of individuals with familiar history of PD (Y) and those without any familiar link to the disease (N); <sup>d</sup>Hoehn and Yahr scale; <sup>e</sup>Total L-Dopa (converted CR + IR)

(mg/day): calculated as the controlled release (CR) plus immediate release (IR) in milligrams per day.