**Supplementary Table 2 – Data of patients and control individuals used in the preliminary validation.** Individual sample codes (in italic) and demographic parameters are indicated for all the samples. 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).

<table>
<thead>
<tr>
<th>Control Group</th>
<th>Age (years)</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ctrl10</td>
<td>53</td>
<td>M</td>
</tr>
<tr>
<td>Ctrl31</td>
<td>58</td>
<td>F</td>
</tr>
<tr>
<td>Ctrl44</td>
<td>60</td>
<td>M</td>
</tr>
<tr>
<td>Ctrl66</td>
<td>64</td>
<td>F</td>
</tr>
<tr>
<td>Ctrl50</td>
<td>67</td>
<td>F</td>
</tr>
<tr>
<td>Ctrl12</td>
<td>71</td>
<td>F</td>
</tr>
<tr>
<td>Ctrl38</td>
<td>71</td>
<td>F</td>
</tr>
<tr>
<td>Ctrl54</td>
<td>72</td>
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<tr>
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<td>72</td>
<td>F</td>
</tr>
<tr>
<td>Ctrl18</td>
<td>73</td>
<td>F</td>
</tr>
<tr>
<td>Ctrl58</td>
<td>74</td>
<td>F</td>
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<table>
<thead>
<tr>
<th>Ctrl39 Group overview</th>
<th>Age (years)</th>
<th>Gender</th>
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<tbody>
<tr>
<td></td>
<td>67.5±7.2</td>
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</tr>
<tr>
<td></td>
<td>[53, 75]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M: 3 (25%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F: 9 (75%)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parkinson's Disease Group</th>
<th>Age (years)</th>
<th>Gender</th>
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<tbody>
<tr>
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<td>F</td>
</tr>
<tr>
<td>PD51</td>
<td>46</td>
<td>M</td>
</tr>
<tr>
<td>PD64</td>
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<td>F</td>
</tr>
<tr>
<td>PD16</td>
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<td>F</td>
</tr>
<tr>
<td>PD21</td>
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<td>F</td>
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<tr>
<td>PD8</td>
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<td>M</td>
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<tr>
<td>PD27</td>
<td>57</td>
<td>M</td>
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<td>PD25</td>
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<tr>
<td>PD57</td>
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</tr>
<tr>
<td>PD13</td>
<td>69</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td>Age at blood coll. (y)</td>
<td>Group overview</td>
</tr>
<tr>
<td>----</td>
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<td>60.1±10.7 [38, 79]</td>
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<tr>
<td>PD42</td>
<td>69</td>
<td>M: 9 (40.9%)</td>
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<tr>
<td>PD34</td>
<td>75</td>
<td>F: 13 (59.1%)</td>
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<tr>
<td>PD15</td>
<td>76</td>
<td>M: 9 (40.9%)</td>
</tr>
<tr>
<td>PD45</td>
<td>79</td>
<td>F: 13 (59.1%)</td>
</tr>
</tbody>
</table>

\(a\) Age at blood coll. (y): age at blood collection in years; \(b\) The individuals were divided into males (M) and females (F).