

1 Table S1. Genes expressing protein variants related to Periodontitis
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Mapped gene	Reported trait
<i>GLT6D1</i>	Periodontitis
<i>AL360006.1, KCNK1</i>	Periodontal microbiota
<i>PKN2-AS1</i>	Periodontal microbiota
<i>CLIC5, RUNX2</i>	Periodontal microbiota
<i>Y_RNA, AC064802.1</i>	Periodontal microbiota
<i>CAMTA1</i>	Periodontal microbiota
<i>AF111167.2, LINC01220</i>	Periodontal microbiota
<i>TENM2</i>	Periodontal microbiota
<i>GRID1</i>	Periodontal microbiota
<i>AL360006.1, KCNK1</i>	Periodontal microbiota
<i>AC016751.2, EXTL2P1</i>	Periodontal microbiota
<i>DAB2IP, AL596244.1</i>	Periodontal microbiota
<i>Y_RNA, NAMPTP1</i>	Periodontal microbiota
<i>FAM166C, OTOF</i>	Periodontal microbiota
<i>FBXO38</i>	Periodontal microbiota
<i>UHRF2</i>	Periodontal microbiota
<i>TBC1D1</i>	Periodontal microbiota
<i>AC003044.1</i>	Periodontitis
<i>AL136967.2, FOXP4-AS1</i>	Periodontitis
<i>ADGRE1</i>	Periodontitis
<i>TTC6</i>	Periodontitis (CDC/AAP)
<i>GPN1</i>	Periodontitis (CDC/AAP)
<i>HLA-DOA</i>	Periodontitis (CDC/AAP)
<i>ITGA8</i>	Periodontitis (CDC/AAP)
<i>ERGIC1</i>	Periodontitis (CDC/AAP)
<i>LRP1B</i>	Periodontitis (CDC/AAP)
<i>PRB2, AC078950.1</i>	Periodontitis (CDC/AAP)
<i>C10orf91, AL451069.1</i>	Periodontitis (CDC/AAP)
<i>AL161449.2, Y_RNA</i>	Periodontitis (CDC/AAP)
<i>CEP295NL, TIMP2</i>	Periodontitis (CDC/AAP)
<i>ACTN2</i>	Periodontitis (CDC/AAP)
<i>KDM4B</i>	Periodontitis (CDC/AAP)
<i>LINC01828, AC007403.1</i>	Periodontitis (CDC/AAP)
<i>AC022239.2, LINC00208</i>	Periodontitis (CDC/AAP)
<i>AC015987.1</i>	Periodontitis (CDC/AAP)
<i>MFSD1</i>	Periodontitis (CDC/AAP)
<i>LINC01262, HSP90AA4P</i>	Periodontitis (CDC/AAP)
<i>IGF2R</i>	Periodontitis (CDC/AAP)
<i>WDR73, SCAND2P</i>	Periodontitis (CDC/AAP)
<i>PARP15</i>	Periodontitis (CDC/AAP)
<i>RPL35AP19, AC068413.1</i>	Periodontitis (CDC/AAP)

<i>CSMD1</i>	Periodontitis (CDC/AAP)
<i>ETNK2</i>	Periodontitis (CDC/AAP)
<i>AC010468.1, AC010468.3</i>	Periodontitis (PAL4Q3)
<i>THSD4</i>	Periodontitis (PAL4Q3)
<i>ROBO2</i>	Periodontitis (PAL4Q3)
<i>LINC01748, LINC02778</i>	Periodontitis (PAL4Q3)
<i>DEFA10P, DEFA9P</i>	Periodontitis (PAL4Q3)
<i>NKAIN3</i>	Periodontitis (PAL4Q3)
<i>PPIAP65, LINC01854</i>	Periodontitis (PAL4Q3)
<i>IGLV10-54</i>	Periodontitis (PAL4Q3)
<i>ROCK1P1</i>	Periodontitis (Mean PAL)
<i>AC055874.1</i>	Periodontitis (Mean PAL)
<i>SMURF2</i>	Periodontitis (Mean PAL)
<i>AC027229.1, RN7SL97P</i>	Periodontitis (Mean PAL)
<i>AC015871.1, ST20-MTHFS</i>	Periodontitis (Mean PAL)
<i>THSD4</i>	Periodontitis (Mean PAL)
<i>ZNF579</i>	Periodontitis (Mean PAL)
<i>ABCA1</i>	Periodontitis (Mean PAL)
<i>MIR8052, BAK1P2</i>	Periodontitis (Mean PAL)
<i>BCORL1, AL034405.1</i>	Periodontitis (Mean PAL)
<i>BIRC5</i>	Periodontitis (Mean PAL)
<i>AC063949.1, C12orf74</i>	Periodontitis (Mean PAL)
<i>ST20-AS1, AC015871.2</i>	Periodontitis (Mean PAL)
<i>CDH13, AC009063.2</i>	Periodontitis (Mean PAL)
<i>AC114324.2, LINC02062</i>	Periodontitis (Mean PAL)
<i>ICE2P2, NDUFA5P5</i>	Periodontitis (Mean PAL)
<i>AP001042.1</i>	Periodontitis (Mean PAL)
<i>AC093534.2, RPL35AP15</i>	Periodontitis (DPAL)
<i>DAOA-AS1, AL138954.1</i>	Periodontitis (DPAL)
<i>GRIK1</i>	Periodontitis (DPAL)
<i>AC093534.2, RPL35AP15</i>	Periodontitis (DPAL)
<i>NLGN1</i>	Periodontitis (DPAL)
<i>AC006059.2, CCDC13</i>	Periodontitis (DPAL)
<i>PWRN1, AC090983.2</i>	Periodontitis (DPAL)
<i>SUMF1</i>	Periodontitis (DPAL)
<i>LBP</i>	Periodontitis (DPAL)
<i>LINC02022</i>	Periodontitis (DPAL)
<i>AC005208.1, KCNJ16</i>	Periodontitis (DPAL)
<i>SCN2A</i>	Periodontitis (DPAL)
<i>TGIF1</i>	Periodontitis (DPAL)
<i>NPAP1, AC090983.2,</i>	
<i>PWRN1</i>	Periodontitis (DPAL)
<i>ZFPM2</i>	Periodontitis (DPAL)
<i>PPIAP65, LINC01854</i>	Periodontitis (PAL4Q3)

<i>LINC00907</i>	Periodontitis (PAL4Q3)
<i>RBOF1</i>	Periodontitis (PAL4Q3)
<i>LINC01933</i>	Periodontitis (PAL4Q3)
<i>HMGB1P5, AC092421.1</i>	Periodontitis (PAL4Q3)
<i>DEFA10P, DEFA9P</i>	Periodontitis (PAL4Q3)
<i>LINC00907</i>	Periodontitis (PAL4Q3)
<i>THSD4</i>	Periodontitis (PAL4Q3)
<i>FAM135B</i>	Periodontitis (PAL4Q3)
<i>AC010468.1, CAMK4</i>	Periodontitis (PAL4Q3)
<i>FAM126A</i>	Periodontitis (Mean PAL)
<i>NKAIN2</i>	Periodontitis (Mean PAL)
<i>PSMA8</i>	Periodontitis (Mean PAL)
<i>ERC2</i>	Periodontitis (Mean PAL)
<i>MIR8052, BAK1P2</i>	Periodontitis (Mean PAL)
<i>ACTN1</i>	Periodontitis (Mean PAL)
<i>DKK1, RPL31P44</i>	Periodontitis (Mean PAL)
<i>AL591501.1</i>	Periodontitis (Mean PAL)
<i>FIZ1</i>	Periodontitis (Mean PAL)
<i>HMX3, ACADSB</i>	Periodontitis (Mean PAL)
<i>HS6ST2</i>	Periodontitis (Mean PAL)
<i>LINC01278</i>	Periodontitis (Mean PAL)
<i>AC090666.1, LINC01919</i>	Periodontitis (Mean PAL)
<i>NKAIN2</i>	Periodontitis (Mean PAL)
<i>HNRNPA1P58, NRSN1</i>	Periodontitis (Mean PAL)
<i>AC123023.1, LINC01811</i>	Periodontitis (Mean PAL)
<i>GDF15</i>	Periodontitis (Mean PAL)
<i>NPM1P2</i>	Periodontitis (Mean PAL)
<i>AC063965.1, PTEN</i>	Periodontitis (Mean PAL)
<i>PTPRT</i>	Periodontitis (Mean PAL)
<i>CSMD1</i>	Periodontitis (CDC/AAP)
<i>RGMA, AC108457.1</i>	Periodontitis (CDC/AAP)
<i>AC022239.2, LINC00208</i>	Periodontitis (CDC/AAP)
<i>AC022239.2, LINC00208</i>	Periodontitis (CDC/AAP)
<i>KDM4B</i>	Periodontitis (CDC/AAP)
<i>AC090365.1, CDH2</i>	Periodontal disease-related phenotype (Socransky)
<i>FHOD3</i>	Periodontal disease-related phenotype (Socransky)
<i>LINC02855, HAS2-AS1</i>	Periodontal disease-related phenotype (Socransky)
<i>HSP90AB2P, U6</i>	Periodontal disease-related phenotype (Socransky)
<i>GVINP1</i>	Periodontal disease-related phenotype (Socransky)
<i>AL356124.1</i>	Periodontal disease-related phenotype (Socransky)
<i>HSP90AB2P, U6</i>	Periodontal disease-related phenotype (Socransky)
<i>OSBPL10</i>	Periodontal disease-related phenotype (Socransky)
<i>AL355838.1</i>	Periodontal disease-related phenotype (Socransky)

<i>CDKL1</i>	Periodontal disease-related phenotype (Socransky)
<i>CRACR2A</i>	Chronic periodontitis (localised)
<i>KCNQ5</i>	Periodontitis
<i>GPR141, EPDR1</i>	Periodontitis
<i>C5AR1</i>	Chronic periodontitis
<i>DLG2</i>	Chronic periodontitis
<i>SIGLEC5, AC018755.2</i>	Periodontitis
<i>AP000959.1, MAPK6P2</i>	Periodontitis
<i>RNU6-675P, TEX51</i>	Periodontitis
<i>MIR297, LYPLA1P2</i>	Periodontitis
<i>AL109933.3</i>	Periodontitis
<i>LINC01239, AL391117.1</i>	Periodontitis
<i>AL354916.1, CUX2P1</i>	Periodontitis
<i>NUDT5</i>	Periodontitis
<i>AC004241.1</i>	Periodontitis
<i>HUNK</i>	Periodontitis

5 Table S2. Genes expressing protein variants related to Parkinson's Disease
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Mapped gene	Reported trait
<i>SIRLNT</i> , <i>AC022733.2</i>	Parkinson's disease (motor and cognition)
<i>LMNB1</i> , <i>MARCH3</i>	Parkinson's disease (motor and cognition)
<i>CLRN3</i>	Parkinson's disease (motor and cognition)
<i>ODAPH</i>	Parkinson's disease (motor and cognition)
<i>CTC1</i>	Parkinson's disease (motor and cognition)
<i>PLPPR1</i>	Parkinson's disease (age at diagnosis)
<i>AC093866.1</i>	Parkinson's disease
<i>LINC02210-CRHR1</i> , <i>LINC02210</i>	Parkinson's disease
<i>HLA-DQA1</i> , <i>HLA-DRB1</i>	Parkinson's disease
<i>RN7SL813P</i> , <i>STK39</i>	Parkinson's disease
<i>GAK</i>	Parkinson's disease
<i>GCH1</i>	Parkinson's disease
<i>MCCC1</i> , <i>DCUN1D1</i>	Parkinson's disease
<i>KLHL7-DT</i> , <i>FAM126A</i>	Parkinson's disease
<i>RAB29</i> , <i>NUCKS1</i>	Parkinson's disease
<i>TIAL1</i> , <i>RAD1P1</i>	Parkinson's disease
<i>FAM47E</i> , <i>FAM47E-STBD1</i> , <i>AC034139.1</i>	Parkinson's disease
<i>BST1</i>	Parkinson's disease
<i>RIT2</i>	Parkinson's disease
<i>AL009179.1</i>	Parkinson's disease
<i>CCDC62</i>	Parkinson's disease
<i>OR5AZ1P</i> , <i>OR5BD1P</i>	Parkinson's disease
<i>LINC02451</i>	Parkinson's disease
<i>SH3GL2</i>	Parkinson's disease
<i>SYT17</i>	Parkinson's disease
<i>NDUFAF2</i>	Parkinson's disease
<i>CA8</i>	Parkinson's disease
<i>AC067852.1</i>	Parkinson's disease
<i>LRRK2</i>	Parkinson's disease
<i>AC087311.2</i> , <i>SYT10</i>	Parkinson's disease
<i>GBA</i>	Parkinson's disease
<i>TMEM175</i>	Parkinson's disease
<i>BST1</i>	Parkinson's disease
<i>LRRK2</i>	Parkinson's disease
<i>LAMTOR2</i> , <i>RAB25</i>	Parkinson's disease
<i>CCNT2-AS1</i>	Parkinson's disease
<i>MCCC1</i>	Parkinson's disease
<i>AC093866.1</i>	Parkinson's disease
<i>RN7SL813P</i> , <i>STK39</i>	Parkinson's disease
<i>CCDC62</i>	Parkinson's disease

<i>AC093866.1</i>	Parkinson's disease
<i>GAK</i>	Parkinson's disease
<i>NSF</i>	Parkinson's disease
<i>SEMA5A</i>	Parkinson's disease
<i>TMEM72-AS1, AL356157.1</i>	Parkinson's disease
<i>STAP1</i>	Parkinson's disease
<i>DLG2</i>	Parkinson's disease
<i>AC093866.1</i>	Parkinson's disease
<i>BST1</i>	Parkinson's disease
<i>SLC2A13</i>	Parkinson's disease
<i>AC119673.1</i>	Parkinson's disease
<i>GAK</i>	Parkinson's disease (familial)
<i>PLEKHM1</i>	Parkinson's disease
<i>TAS1R2, PAX7</i>	Parkinson's disease
<i>BRINP1</i>	Parkinson's disease
<i>DGKQ</i>	Parkinson's disease
<i>AC034213.1, GFPT2</i>	Parkinson's disease
<i>SNCA</i>	Parkinson's disease
<i>FAM47E, FAM47E-STBD1, AC034139.1</i>	Parkinson's disease
<i>AC093866.1</i>	Parkinson's disease
<i>MAPT-AS1, SPPL2C</i>	Parkinson's disease
<i>MCCC1</i>	Parkinson's disease
<i>TMEM175</i>	Parkinson's disease
<i>RIT2</i>	Parkinson's disease
<i>SREBF1</i>	Parkinson's disease
<i>LRRK2</i>	Parkinson's disease
<i>SLC41A1</i>	Parkinson's disease
<i>AJ009632.2</i>	Parkinson's disease
<i>NSF</i>	Parkinson's disease
<i>UNC13B</i>	Parkinson's disease
<i>WNT3</i>	Parkinson's disease
<i>LINC01709, LINC01307</i>	Parkinson's disease
<i>AC093866.1</i>	Parkinson's disease
<i>AC093866.1</i>	Parkinson's disease
<i>HLA-DRA</i>	Parkinson's disease
<i>HLA-DRA</i>	Parkinson's disease
<i>WNT3</i>	Parkinson's disease
<i>WNT3</i>	Parkinson's disease
<i>LINC01709, LINC01307</i>	Parkinson's disease
<i>CCDC82</i>	Parkinson's disease
<i>TMC3-AS1, TMC3</i>	Parkinson's disease
<i>COL13A1</i>	Parkinson's disease
<i>LINC00476</i>	Parkinson's disease (pesticide exposure interaction)

<i>AC011586.2</i>	Parkinson's disease
<i>SPTSSB</i>	Parkinson's disease
<i>DLG2</i>	Parkinson's disease
<i>ZNF165, ZSCAN16-AS1</i>	Parkinson's disease
<i>LRRK2, AC079630.1</i>	Parkinson's disease
<i>CCDC62</i>	Parkinson's disease
<i>GCH1</i>	Parkinson's disease
<i>TMEM229B</i>	Parkinson's disease
<i>AC018618.1</i>	Parkinson's disease
<i>BCKDK</i>	Parkinson's disease
<i>MAPT</i>	Parkinson's disease
<i>RIT2</i>	Parkinson's disease
<i>TMPRSS9</i>	Parkinson's disease
<i>LZTS3, DDRGK1</i>	Parkinson's disease
<i>ITPKB</i>	Parkinson's disease
<i>MAP4K4</i>	Parkinson's disease
<i>SCN2A</i>	Parkinson's disease
<i>TBC1D5</i>	Parkinson's disease
<i>IP6K2</i>	Parkinson's disease
<i>ITIH1</i>	Parkinson's disease
<i>RNU1-138P, CAMK2D</i>	Parkinson's disease
<i>NDUFAF2</i>	Parkinson's disease
<i>GPR89P, AL009179.1</i>	Parkinson's disease
<i>CTSB</i>	Parkinson's disease
<i>HLA-DQB1, MTCO3P1</i>	Parkinson's disease
<i>GPNUMB</i>	Parkinson's disease
<i>AGAP1</i>	Parkinson's disease
<i>INPP5F</i>	Parkinson's disease
<i>PAM</i>	Parkinson's disease
<i>AP001979.1, IGSF9B</i>	Parkinson's disease
<i>CCN6, LINC02527</i>	Parkinson's disease
<i>AC103957.1, AC103957.2</i>	Parkinson's disease
<i>GBF1</i>	Parkinson's disease
<i>CAB39L</i>	Parkinson's disease
<i>AL359502.1, PSMA6P4</i>	Parkinson's disease
<i>AL355773.1, KTN1</i>	Parkinson's disease
<i>LTK</i>	Parkinson's disease
<i>ITGA2B</i>	Parkinson's disease
<i>Y_RNA, MED13</i>	Parkinson's disease
<i>HMGN2P18, KRTCAP2</i>	Parkinson's disease
<i>RAB29, NUCKS1</i>	Parkinson's disease
<i>SIPA1L2</i>	Parkinson's disease
<i>CCNT2-AS1</i>	Parkinson's disease

<i>RN7SL813P, STK39</i>	Parkinson's disease
<i>MCCC1</i>	Parkinson's disease
<i>TMEM175</i>	Parkinson's disease
<i>BST1</i>	Parkinson's disease
<i>FAM47E, FAM47E-STBD1, AC034139.1</i>	Parkinson's disease
<i>AC093866.1</i>	Parkinson's disease
<i>BIN3</i>	Parkinson's disease
<i>SH3GL2</i>	Parkinson's disease
<i>ITGA8</i>	Parkinson's disease
<i>GPR65</i>	Parkinson's disease
<i>SYT17</i>	Parkinson's disease
<i>CASC16</i>	Parkinson's disease
<i>WNT9A, CICP26</i>	Parkinson's disease
<i>COL5A2</i>	Parkinson's disease
<i>AC126121.3</i>	Parkinson's disease
<i>AC068633.1, IGSF11</i>	Parkinson's disease
<i>LINC02224</i>	Parkinson's disease
<i>AL513124.1, AL355674.1</i>	Parkinson's disease
<i>RPA2P1, MDGA2</i>	Parkinson's disease
<i>AC007998.4, AC007998.3</i>	Parkinson's disease
<i>LHFPL2</i>	Parkinson's disease (familial, age at onset)
<i>TRPS1</i>	Parkinson's disease (familial, age at onset)
<i>KLHDC1</i>	Parkinson's disease (familial, age at onset)
<i>TPM1</i>	Parkinson's disease (familial, age at onset)
<i>LINC02210, LINC02210-CRHR1</i>	Parkinson's disease
<i>AC093866.1</i>	Parkinson's disease
<i>BST1</i>	Parkinson's disease
<i>AC079385.1</i>	Parkinson's disease
<i>HLA-DRA</i>	Parkinson's disease
<i>PRDM15</i>	Parkinson's disease
<i>AC093866.1</i>	Parkinson's disease
<i>RN7SL813P, STK39</i>	Parkinson's disease
<i>BST1</i>	Parkinson's disease
<i>AL357075.5, CNKSR3</i>	Parkinson's disease
<i>TSBP1-AS1, HLA-DRA</i>	Parkinson's disease
<i>SLC50A1</i>	Parkinson's disease
<i>CCNT2-AS1</i>	Parkinson's disease
<i>DGKQ</i>	Parkinson's disease
<i>CTSB, FDFT1</i>	Parkinson's disease
<i>SH3GL2</i>	Parkinson's disease
<i>ANO5, AC116534.1</i>	Parkinson's disease
<i>SLC2A13</i>	Parkinson's disease
<i>AC018618.1</i>	Parkinson's disease

<i>PRSS53, AC135050.2, ZNF646</i>	Parkinson's disease
<i>WNT3</i>	Parkinson's disease
<i>RIT2</i>	Parkinson's disease
<i>DSG3</i>	Parkinson's disease (age of onset)
<i>AC021979.2, OCA2</i>	Parkinson's disease (age of onset)
<i>ATF6</i>	Parkinson's disease (age of onset)
<i>QSER1, PRRG4</i>	Parkinson's disease (age of onset)
<i>AAK1</i>	Parkinson's disease (age of onset)
<i>CNTN1</i>	Parkinson's disease
<i>KANSL1</i>	Parkinson's disease
<i>KCNN3, PMVK</i>	Parkinson's disease
<i>RAB29, NUCKS1</i>	Parkinson's disease
<i>MCCC1</i>	Parkinson's disease
<i>AC093866.1</i>	Parkinson's disease
<i>SLC2A13</i>	Parkinson's disease
<i>DLG2</i>	Parkinson's disease
<i>COL3A1, AC092598.1</i>	Parkinson disease and lewy body pathology
<i>TCEANC2</i>	Parkinson disease and lewy body pathology
<i>MX2</i>	Parkinson disease and lewy body pathology
<i>ZP3</i>	Parkinson disease and lewy body pathology
<i>PABPN1L, TRAPPC2L</i>	Parkinson disease and lewy body pathology
<i>KCNIP4</i>	Parkinson disease and lewy body pathology
<i>FRG1CP, MIR663AHG</i>	Parkinson disease and lewy body pathology
<i>HTR2A-AS1, HTR2A</i>	Parkinson disease and lewy body pathology
<i>AC026826.3, AC023968.1</i>	Parkinson disease and lewy body pathology
<i>AC079070.1, LINC02582</i>	Parkinson disease and lewy body pathology
<i>ISM1, AL121782.1</i>	Parkinson's disease
<i>FAM47E, FAM47E-STBD1, AC034139.1</i>	Parkinson's disease
<i>ITGA8</i>	Parkinson's disease
<i>SNCA</i>	Parkinson's disease
<i>NSF</i>	Parkinson's disease
<i>LINC02210-CRHR1, LINC02210</i>	Parkinson's disease
<i>NUCKS1</i>	Parkinson's disease
<i>CYP17A1, WBP1L</i>	Parkinson's disease
<i>MMRN1, SNCA-AS1</i>	Parkinson's disease
<i>AL365295.1, LINC02331</i>	Parkinson's disease
<i>PMVK</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>FAM47E, SCARB2</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>GBA</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>AC093866.1</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>Z98751.1, VAMP4</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease

<i>RNU1-138P, CAMK2D</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>RAB29</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>ELOVL7</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>SIPA1L2</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>KCNS3</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>RSL24D1P1, AL009179.2</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>TRIM40</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>HLA-DRB1, HLA-DQA1</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>RNU4-66P, RIMS1</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>CCN6, LINC02527</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>AL137783.1, HMGB1P13</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>GPNMB</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>AC006001.3, AC008267.3</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>CTSB</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>AC011586.2</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>BIN3</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>FAM49B</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>SH3GL2</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>SH3GL2</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>UBAP2</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>CHRNA1</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>RETREG3</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>UBTF</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>FAM171A2</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>LINC02210-CRHR1</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>LINC02210-CRHR1</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>WNT3</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>BRIP1</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>DNAH17</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>ASXL3</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease

<i>RIT2</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>SRSF10P1, SMAD4</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>SPPL2B, AC005258.1</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>AL035461.3, CRLS1</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>DYRK1A</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>AL135927.1, SEMA4A</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>TMEM163</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>AC093866.1</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>SNCA</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>ZNF608, AC113398.1</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>SLC44A4, EHMT2-AS1</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>DNM1L, FGD4</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>MUC19</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>MUC19</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>AC090630.1</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>SCARB2, AC110795.1</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>HMGN2P18, KRTCAP2</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>FAM47E-STBD1, AC034139.1, FAM47E</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>AL592295.3, FCGR2A</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>AC093866.1</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>RAB29, NUCKS1</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>CLCN3</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>ITPKB</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>PAM</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>AC006077.1</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>KCNIP3</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>MAP4K4</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>TMEM163</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>RN7SL813P, STK39</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>TBC1D5</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease

<i>RBMS3, AC098650.1</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>IP6K2</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>KPNA1</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>MED12L</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>SPTSSB</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>MCCC1</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>GAK</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>TMEM175</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>BST1</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>LCORL</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>ITGA8</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>GBF1</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>BAG3</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>INPP5F</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>RNF141</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>DLG2</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>IGSF9B</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>LRRK2, AC079630.1</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>LRRK2</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>AC084878.1, SLC38A1</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>HIP1R</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>FBRSL1, AC079031.2</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>CAB39L</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>LINC00456, MBNL2</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>MIPOL1</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>GCH1</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>RPS6KL1</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>RNU6-835P, GPR65</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>AC018618.1</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>SYT17</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease

<i>RABEP2, CD19</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>SETD1A</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>NOD2</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>CASC16</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>PHBP21</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>GXYLT1</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>AC003070.7, AC003070.2</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>LINC02210-CRHR1</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>MAPT-AS1</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>KANSL1</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>NSF</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>LZTS3, DDRGK1</i>	Parkinson's disease or first degree relation to individual with Parkinson's disease
<i>AC093866.1</i>	Parkinson's disease in GBA mutation carriers
<i>CTSB</i>	Parkinson's disease in GBA mutation carriers
<i>MAPT</i>	Parkinson's disease
<i>RBMS3, AC098650.1</i>	Parkinson's disease
<i>AC093866.1</i>	Parkinson's disease
<i>LRRK2</i>	Parkinson's disease
<i>LRRK2</i>	Parkinson's disease
<i>DGKQ</i>	Parkinson's disease
<i>AC093866.1</i>	Parkinson's disease
<i>MMRN1, SNCA-AS1</i>	Parkinson's disease
<i>SNCA</i>	Parkinson's disease (age of onset)
<i>SNCA-AS1</i>	Parkinson's disease (age of onset)
<i>TMEM175</i>	Parkinson's disease (age of onset)
<i>APOE</i>	Parkinson's disease (age of onset)
<i>GCH1</i>	Parkinson's disease
<i>TMEM229B</i>	Parkinson's disease
<i>AC018618.1</i>	Parkinson's disease
<i>BCKDK</i>	Parkinson's disease
<i>MAPT</i>	Parkinson's disease
<i>RIT2</i>	Parkinson's disease
<i>TMPRSS9</i>	Parkinson's disease
<i>LZTS3, DDRGK1</i>	Parkinson's disease
<i>AC011586.2</i>	Parkinson's disease
<i>HMG2P18, KRTCAP2</i>	Parkinson's disease
<i>RAB29, NUCKS1</i>	Parkinson's disease
<i>SIPA1L2</i>	Parkinson's disease

<i>CCNT2-AS1</i>	Parkinson's disease
<i>RN7SL813P, STK39</i>	Parkinson's disease
<i>MCCC1</i>	Parkinson's disease
<i>TMEM175</i>	Parkinson's disease
<i>BST1</i>	Parkinson's disease
<i>FAM47E, FAM47E-STBD1, AC034139.1</i>	Parkinson's disease
<i>AC093866.1</i>	Parkinson's disease
<i>HLA-DQB1, MTCO3P1</i>	Parkinson's disease
<i>GPNUMB</i>	Parkinson's disease
<i>INPP5F</i>	Parkinson's disease
<i>DLG2</i>	Parkinson's disease
<i>AP001979.1, IGSF9B</i>	Parkinson's disease
<i>LRRK2, AC079630.1</i>	Parkinson's disease
<i>CCDC62</i>	Parkinson's disease
<i>SNCA</i>	Parkinson's disease (age of onset)
<i>PRKN</i>	Parkinson's disease (age of onset)
<i>AC093866.1</i>	Parkinson's disease
<i>LRRK2, MUC19</i>	Parkinson's disease
<i>KANSL1</i>	Parkinson's disease
<i>HLA-DQB1, MTCO3P1</i>	Parkinson's disease
<i>LINC02210-CRHR1</i>	Parkinson's disease
<i>TMEM175</i>	Parkinson's disease
<i>SETD1A</i>	Parkinson's disease
<i>CHL1-AS1, CHL1</i>	Parkinsonism in frontotemporal lobe dementia
<i>SP1</i>	Parkinsonism in frontotemporal lobe dementia
<i>LINC01500</i>	Parkinsonism in frontotemporal lobe dementia

8 Table S3. Reactome pathways analysis results

Reactome pathways	Number of genes	Number of genes uploaded in the PPI	expected	Fold Enrichment	±	Fisher Test	False Discovery Rate
Plasma lipoprotein assembly	18	2	.02	> 100	+	1.32E-04	3.78E-02
Ras activation upon Ca2+ influx through NMDA receptor	19	2	.02	> 100	+	1.46E-04	3.71E-02
↳ CREB1 phosphorylation through NMDA receptor-mediated activation of RAS signaling	27	2	.02	85.81	+	2.81E-04	4.02E-02
Negative regulation of NMDA receptor-mediated neuronal transmission	21	2	.02	> 100	+	1.76E-04	4.02E-02
Unblocking of NMDA receptors, glutamate binding and activation	21	2	.02	> 100	+	1.76E-04	3.65E-02
Long-term potentiation	22	2	.02	> 100	+	1.92E-04	3.37E-02
Nephrin family interactions	23	2	.02	> 100	+	2.08E-04	3.17E-02
Golgi Associated Vesicle Biogenesis	54	4	.05	85.81	+	1.60E-07	1.82E-04
↳ trans-Golgi Network Vesicle Budding	72	4	.06	64.35	+	4.78E-07	3.64E-04
↳ Membrane Trafficking	625	6	.54	11.12	+	1.02E-05	3.87E-03
Cargo recognition for clathrin-mediated endocytosis	104	3	.09	33.42	+	1.01E-04	3.30E-02
↳ Clathrin-mediated endocytosis	144	5	.12	40.22	+	1.38E-07	3.15E-04
Platelet degranulation	127	3	.11	27.36	+	1.80E-04	3.43E-02
↳ Response to elevated platelet cytosolic Ca2+	132	3	.11	26.33	+	2.01E-04	3.28E-02
Unclassified	10195	0	8.80	< 0.01	-	8.19E-06	3.74E-03