**S2 Table. Summary statistics for MR analysis of potential causal effect of Parkinson’s disease on periodontitis**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| SNP | Chr | Nearest gene | Alleles: effect\*/other | Eaf | Exposure: PD  (30,344 cases vs. 52,427 controls) [1] | | | Outcome: periodontitis  (12,289 cases vs. 22,326 controls) [2] | | |
| Coefficient# | SE | *P* value | Coefficient# | SE | *P* value |
| rs10463554 | 5 | PAM | T / C | NA | 0,0629 | 0,0120 | 2,00E-07 | 0,0000 | 5.89e-05 | 0.43 |
| rs10797576 | 1 | SIPA1L2 | T / C | 0.135 | 0,1133 | 0,0137 | 8,00E-13 | -0,0001 | 8.41e-05 | 0.09 |
| rs10906923 | 10 | FAM171A1 | A / C | 0.694 | 0,0726 | 0,0143 | 1,00E-08 | 0,0001 | 5.94e-05 | 0.22 |
| rs11060180 | 12 | OGFOD2 | A / G | 0.551 | 0,1054 | 0,0114 | 2,00E-20 | 0,0001 | 5.63e-05 | 0.36 |
| rs11158026 | 14 | GCH1 | C / T | 0.669 | 0,0943 | 0,0093 | 4,00E-16 | -0,0001 | 5.87e-05 | 0.29 |
| rs11343 | 16 | COQ7 | T / G | 0.454 | 0,0677 | 0,0119 | 9,00E-11 | -0,0001 | 5.702e-05 | 0.02 |
| rs117896735 | 10 | BAG3 | A / G | 0.015 | 0,5008 | 0,0569 | 2,00E-19 | 0,0001 | 0.0002 | 0.76 |
| rs12456492 | 18 | SYT4 | G / A | 0.315 | 0,0953 | 0,0117 | 6,00E-16 | 0,0000 | 5.99e-05 | 0.95 |
| rs12497850 | 3 | NCKIPSD | T / G | 0.653 | 0,0726 | 0,0143 | 9,00E-09 | 0,0000 | 5.81e-05 | 0.39 |
| rs12637471 | 3 | MCCC1 | G / A | 0.802 | 0,1625 | 0,0151 | 2,00E-30 | -0,0002 | 7.06e-05 | 0.03 |
| rs13294100 | 9 | SH3GL2 | G / T | 0.629 | 0,0834 | 0,0140 | 5,00E-13 | 0,0000 | 5.84e-05 | 0.89 |
| rs14235 | 16 | ZNF646 | A / G | 0.378 | 0,0770 | 0,0094 | 5,00E-12 | 0,0001 | 5.78e-05 | 0.08 |
| rs1474055 | 2 | STK39 | T / C | 0.126 | 0,1863 | 0,0191 | 6,00E-26 | -0,0001 | 8.60e-05 | 0.41 |
| rs17649553 | 17 | ARHGAP27 | C / T | 0.779 | 0,2485 | 0,0139 | 1,00E-68 | 0,0000 | 6.64e-05 | 0.71 |
| rs199347 | 7 | KLHL7 | A / G | 0.588 | 0,0943 | 0,0093 | 4,00E-18 | 0,0000 | 5.65e-05 | 0.81 |
| rs2280104 | 8 | SORBS3 | T / C | 0.367 | 0,0677 | 0,0120 | 3,00E-08 | 0,0000 | 5.81e-05 | 0.46 |
| rs2296887 | 10 | GBF1 | C / T | NA | 0,0807 | 0,0142 | 2,00E-07 | 0,0001 | 7.92e-05 | 0.47 |
| rs2414739 | 15 | VPS13C | A / G | 0.734 | 0,0943 | 0,0093 | 4,00E-14 | 0,0000 | 6.38e-05 | 0.68 |
| rs2694528 | 5 | ELOVL7 | C / A | 0.115 | 0,1398 | 0,0199 | 5,00E-15 | -0,0001 | 0.0001 | 0.26 |
| rs2740594 | 8 | CTSB | A / G | 0.753 | 0,0862 | 0,0117 | 6,00E-12 | 0,0000 | 6.33e-05 | 0.94 |
| rs316619 | 15 | LTK | C / T | NA | 0,0534 | 0,0121 | 7,00E-06 | 0,0000 | 5.76e-05 | 0.4 |
| rs329648 | 11 | MIR4697 | T / C | 0.351 | 0,0862 | 0,0117 | 1,00E-13 | 0,0000 | 5.85e-05 | 0.54 |
| rs34043159 | 2 | IL1R2 | C / T | 0.352 | 0,0770 | 0,0094 | 5,00E-11 | 0,0000 | 5.85e-05 | 0.69 |
| rs34311866 | 4 | TMEM175 | C / T | 0.184 | 0,2070 | 0,0145 | 1,00E-50 | -0,0001 | 7.30e-05 | 0.05 |
| rs356182 | 4 | SNCA | G / A | 0.349 | 0,2852 | 0,0115 | 5,00E-123 | -0,0001 | 5.95e-05 | 0.29 |
| rs35749011 | 1 | GBA | A / G | 0.012 | 0,5447 | 0,0441 | 3,00E-35 | 0,0002 | 0.0002 | 0.36 |
| rs3793947 | 11 | DLG2 | G / A | 0.558 | 0,0726 | 0,0119 | 4,00E-09 | 0,0001 | 5.66e-05 | 0.35 |
| rs4073221 | 3 | SATB1 | G / T | 0.132 | 0,0953 | 0,0163 | 2,00E-08 | 0,0001 | 8.41e-05 | 0.25 |
| rs4653767 | 1 | ITPKB | T / C | 0.685 | 0,0834 | 0,0118 | 2,00E-11 | -0,0001 | 6.19-05 | 0.27 |
| rs4784227 | 16 | TOX3 | T / C | 0.265 | 0,0862 | 0,0140 | 1,00E-10 | -0,0001 | 6.49e-05 | 0.44 |
| rs591323 | 8 | MICU3 | G / A | 0.726 | 0,0943 | 0,0140 | 2,00E-11 | 0,0000 | 6.17e-05 | 0.57 |
| rs62120679 | 19 | LSM7 | T / C | 0.31 | 0,0770 | 0,0142 | 7,00E-07 | 0,0000 | 6.14e-05 | 0.49 |
| rs6416935 | 17 | MED13 | G / T | NA | 0,0780 | 0,0142 | 4,00E-07 | 0,0001 | 7.69e-05 | 0.38 |
| rs6430538 | 2 | TMEM163 | C / T | 0.55 | 0,1165 | 0,0113 | 8,00E-24 | 0,0001 | 5.69e-05 | 0.34 |
| rs67460515 | 3 | SPTSSB | C / T | NA | 0,0573 | 0,0096 | 1,00E-06 | -0,0001 | 6.01e-05 | 0.19 |
| rs6812193 | 4 | FAM47E | C / T | 0.63 | 0,0834 | 0,0118 | 1,00E-14 | -0,0001 | 5.74e-05 | 0.36 |
| rs76904798 | 12 | LRRK2 | T / C | 0.137 | 0,1398 | 0,0155 | 1,00E-19 | 0,0001 | 7.90e-05 | 0.24 |
| rs78738012 | 4 | ANK2 | C / T | 0.106 | 0,1222 | 0,0181 | 5,00E-11 | 0,0000 | 9.28e-05 | 0.66 |
| rs8005172 | 14 | GALC | T / C | 0.424 | 0,0770 | 0,0119 | 9,00E-11 | -0,0001 | 5.62e-05 | 0.19 |
| rs8118008 ¥ | 20 | DDRGK1 | A / G | 0.609 | 0,0677 | 0,0120 | 2,00E-06 | 0,0000 | 5.72e-05 | 0.64 |
| rs9275326 | 6 | HLA-DRB6 | C / T | 0.895 | 0,1625 | 0,0218 | 1,00E-13 | 0,0000 | 9.19e-05 | 0.88 |
| rs943437 | 6 | CCN6 | A / G | NA | 0,0899 | 0,0163 | 6,00E-08 | -0,0001 | 8.42e-05 | 0.39 |
| rs9468199 | 5 | ZNF184 | A / G | 0.172 | 0,1044 | 0,0138 | 1,00E-12 | 0,0000 | 7.37e-05 | 0.71 |
| rs9516970 | 13 | *-* | A / G | NA | 0,0630 | 0,0120 | 5,00E-07 | -0,0001 | 5.93e-05 | 0.07 |
| rs9568188 | 13 | CAB39L | T / C | NA | 0,0661 | 0,0120 | 4,00E-07 | 0,0000 | 6.27e-05 | 0.61 |

PD: Parkinson’s disease; Chr: chromosome; Eaf: effect allele frequency; SE: standard error; SNP: single-nucleotide polymorphism

\*Effect allele carrier has increased risk of PD; #Coefficient: B estimate

These 45 SNPs were used as instrumental variables for PD.

¥ rs8118008 (A/G) was used as proxy SNP (linkage disequilibrium R2>0.8).

**References**

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