

Supplementary Table. Assessment of the effect of top hit loci between this study and a previous European study

| Chr | Gene | Lead SNP | Discovery Stage in ToMMo | | | Validation Stage in ToMMo | | | UKBB-1** | | | GERA** | | |
|-----|----------------------------|---------------|--------------------------|-------|---------|---------------------------|-------|---------|----------|-------|----------|--------|-------|---------|
| | | | B | SE | P | B | SE | P | B | SE | P | B | SE | P |
| 15 | <i>LINC02252~GJD2</i> | rs16959560* | 0.084 | 0.009 | 2.3E-21 | 0.091 | 0.013 | 3.5E-13 | NA | NA | NA | NA | NA | NA |
| | | rs524952 | 0.083 | 0.009 | 4.1E-21 | 0.091 | 0.013 | 3.5E-13 | 0.251 | 0.011 | 5.2E-116 | 0.206 | 0.019 | 4.5E-28 |
| 22 | <i>WNT7B</i> | rs368756970* | -0.086 | 0.009 | 5.0E-20 | -0.092 | 0.013 | 6.3E-12 | NA | NA | NA | NA | NA | NA |
| | | rs533628434 | NA | NA | NA | NA | NA | NA | 0.101 | 0.012 | 4.5E-18 | NA | NA | NA |
| 17 | <i>ANKFN1~NOG</i> | rs151278468* | -0.397 | 0.044 | 1.7E-20 | -0.378 | 0.060 | 5.0E-10 | NA | NA | NA | NA | NA | NA |
| | | rs12603264 | 0.042 | 0.010 | 1.7E-05 | NA | NA | NA | 0.119 | 0.012 | 2.9E-23 | 0.083 | 0.019 | 1.9E-05 |
| 7 | <i>VIPR2</i> | rs141313179* | 0.364 | 0.040 | 2.5E-20 | 0.303 | 0.057 | 2.1E-07 | NA | NA | NA | NA | NA | NA |
| | | rs12234576 | -0.046 | 0.010 | 9.4E-06 | NA | NA | NA | -0.117 | 0.015 | 3.1E-16 | -0.077 | 0.026 | 2.9E-03 |
| 1 | <i>LYPLAL1-AS1~ZC3H11B</i> | NA:219743871* | 0.060 | 0.009 | 5.8E-12 | 0.082 | 0.013 | 1.3E-10 | NA | NA | NA | NA | NA | NA |
| 15 | <i>RASGRF1</i> | rs755362* | 0.060 | 0.009 | 2.2E-12 | 0.079 | 0.013 | 7.2E-10 | NA | NA | NA | NA | NA | NA |
| | | rs1007365 | 0.059 | 0.009 | 5.2E-12 | 0.083 | 0.013 | 7.3E-11 | 0.154 | 0.011 | 3.1E-42 | 0.133 | 0.019 | 2.2E-12 |
| 11 | <i>LRRC4C</i> | rs7936359* | 0.078 | 0.011 | 1.4E-13 | 0.091 | 0.016 | 1.0E-08 | NA | NA | NA | NA | NA | NA |
| | | rs11602008 | 0.077 | 0.011 | 1.6E-13 | 0.088 | 0.016 | 3.1E-08 | 0.232 | 0.015 | 2.5E-56 | 0.179 | 0.025 | 1.3E-12 |
| 2 | <i>PRSS56</i> | rs77311538* | -0.103 | 0.015 | 1.3E-11 | -0.129 | 0.023 | 1.8E-08 | NA | NA | NA | NA | NA | NA |
| | | rs1550094 | NA | NA | NA | NA | NA | NA | -0.205 | 0.012 | 2.6E-67 | NA | NA | NA |

Chr: chromosome; NA: not applicable.

* Lead SNP in our meta-analysis.

**Results of the meta-analyses of GWAS from the four discovery cohorts from Hysi, et al. Nat Genet 2020.

UKBB: The UK Biobank, GERA: The Genetic Epidemiology Research in Adult Health and Aging cohort.