

**Supplement to: Li J, Liu Q, Ma Q, Shen T, Xia J, Yang X, Liu K, Li N, Yan B. Multilevel genomic, transcriptomic, and epidemiologic evidence linking diabetic retinopathy to Alzheimer disease. J Glob Health. 2026;16:04311.**

**Supplementary figures:**

**Figure S1.** Flowchart of study cohort selection.

**Figure S2.** Causal effect of DR on AD as estimated by MR analysis.

**Figure S3.** Locus-level comparison of association signals between DR and AD.

**Figure S4.** SMR locus plots for representative shared genes between DR and AD.

**Figure S5.** Love plot showing covariate balance before and after inverse probability of treatment weighting in the diabetes-restricted cohort.

**Figure S6.** Cumulative incidence curves of AD from the 2-year landmark analysis comparing participants with and without DR diagnosed prior to the landmark.

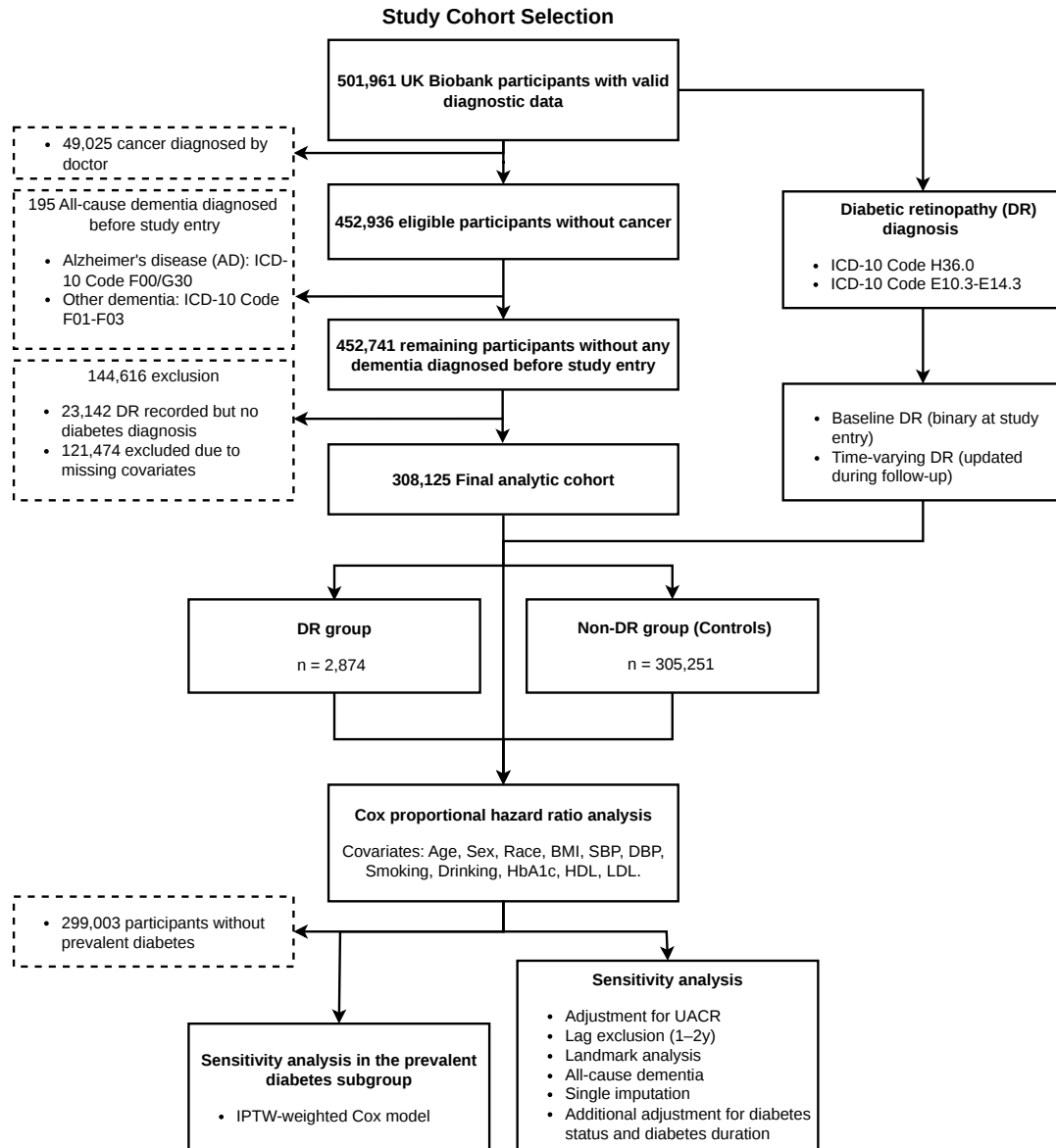


**Figure S1.** Flowchart of study cohort selection.

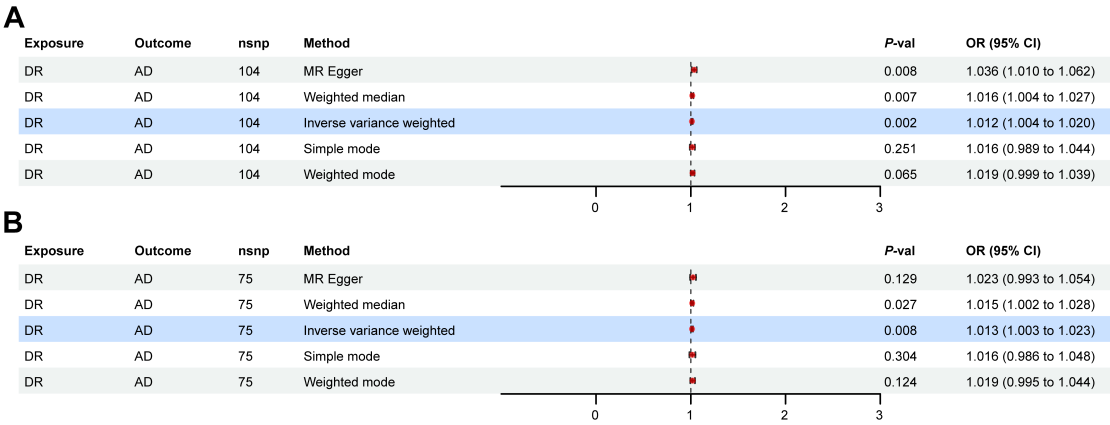


**Figure S2.** Causal effect of DR on AD as estimated by MR analysis. **Panel A.** MR results of European populations. **Panel B.** MR results of multi-populations.

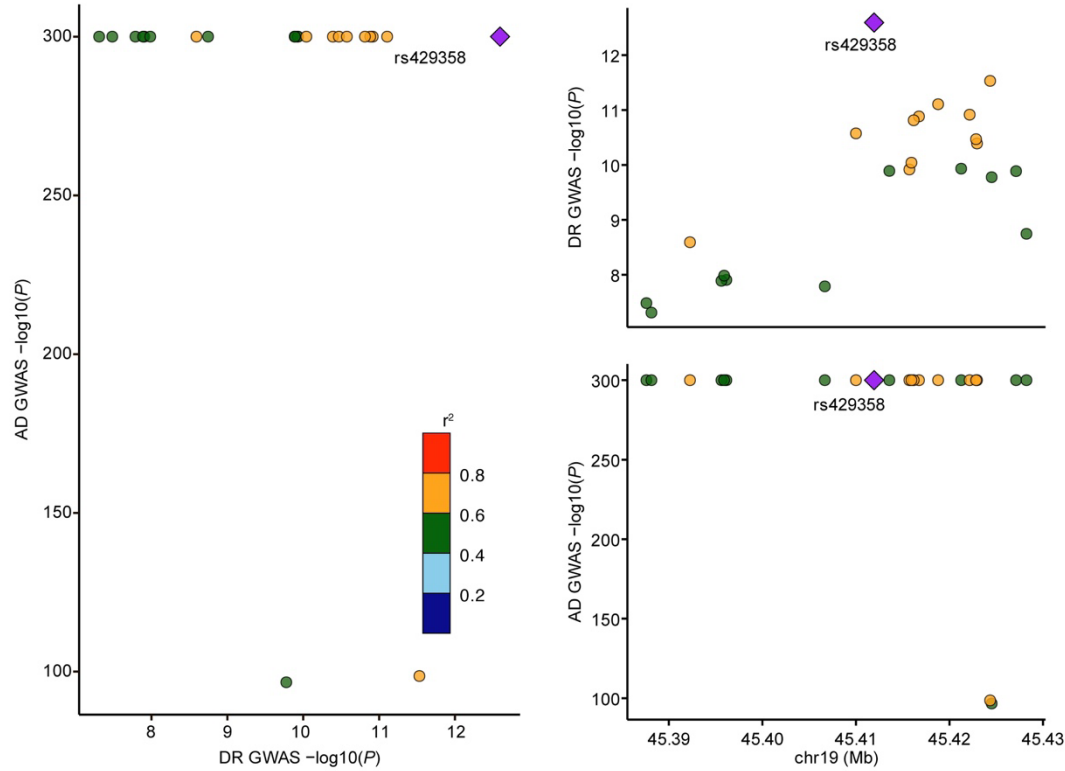


**Figure S3.** Locus-level comparison of association signals between DR and AD.

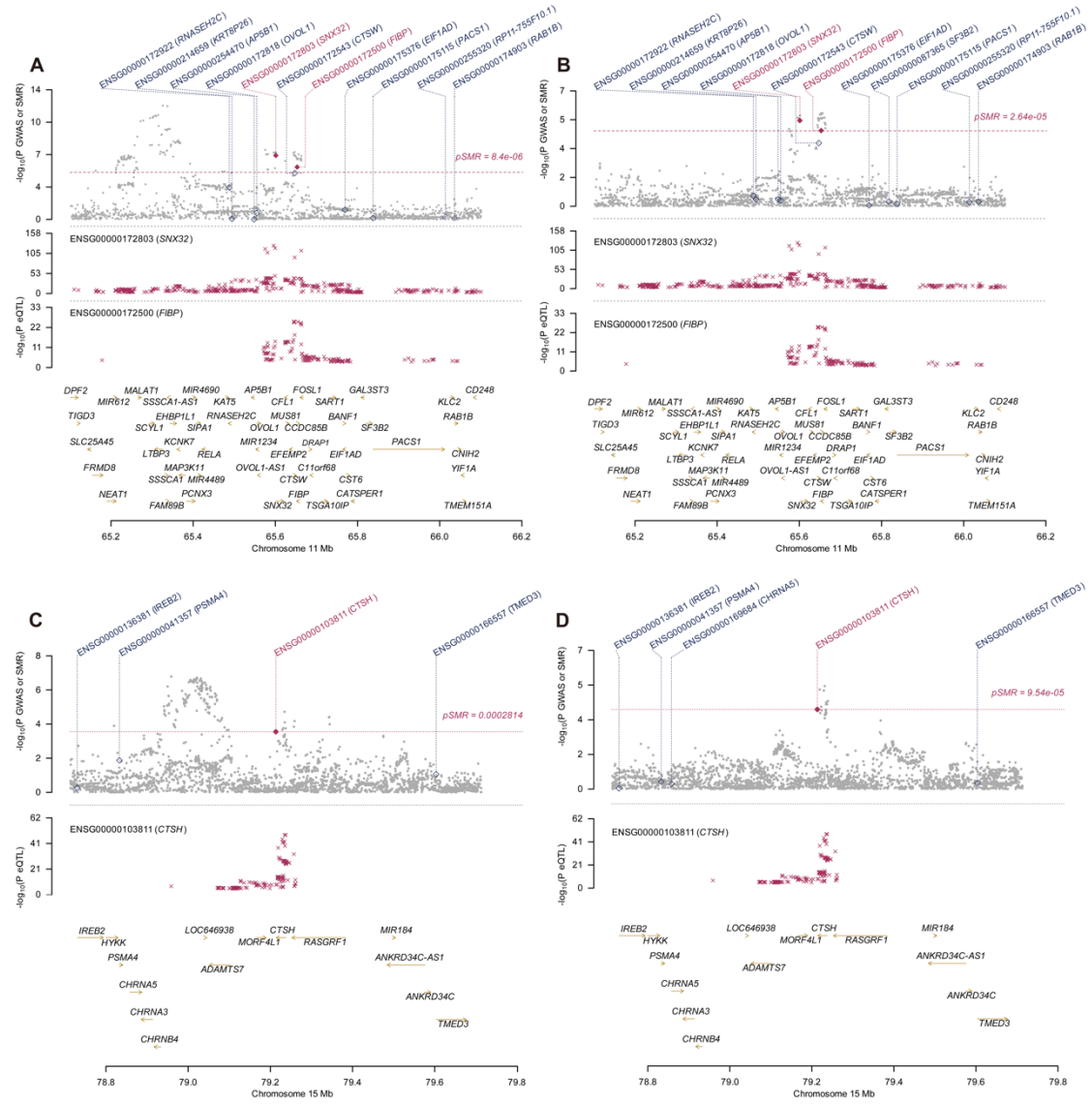


**Figure S4.** SMR locus plots for representative shared genes between DR and AD. **Panel A.** PsychENCODE Consortium eQTL-DR SMR results. **Panel B.** PsychENCODE Consortium eQTL-AD SMR results. **Panel C.** GTEx Consortium v8 whole blood eQTL-DR SMR results. **Panel D.** GTEx Consortium v8 whole blood eQTL-AD SMR results.

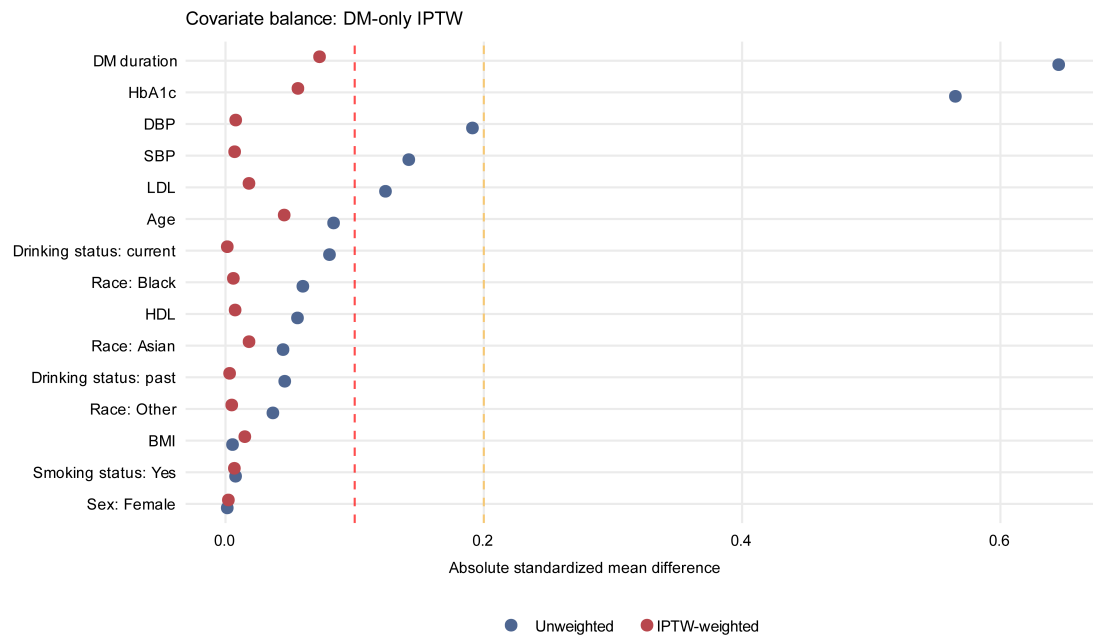


**Figure S5.** Love plot showing covariate balance before and after inverse probability of treatment weighting in the diabetes-restricted cohort. Absolute SMDs for all covariates included in the propensity score model are presented. The dashed red line indicates the threshold of SMD = 0.1.

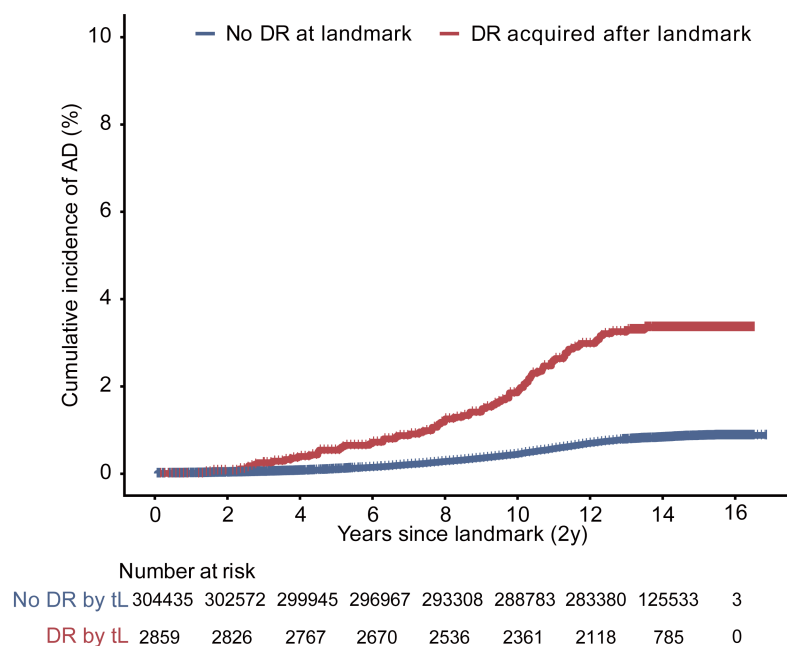


**Figure S6.** Cumulative incidence curves of AD from the 2-year landmark analysis comparing participants with and without DR diagnosed prior to the landmark.

**Supplementary tables:**

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**Table S1. Summary of GWAS datasets used in this study.**

| Name                        | ID                 | Sample size                                                                                                                                                                                                                                                                                                                     | Database     |
|-----------------------------|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| DR                          | GCST90475689       | 29,668 European ancestry cases, 402,541 European ancestry controls                                                                                                                                                                                                                                                              | GWAS Catalog |
| Multi-population DR         | GCST90479891       | 11,781 African American or Afro-Caribbean cases, 103,431 African American or Afro-Caribbean controls, 5,658 Hispanic or Latin American cases, 51,648 Hispanic or Latin American controls, 483 East Asian ancestry cases, 6,078 East Asian ancestry controls, 29,668 European ancestry cases, 402,541 European ancestry controls | GWAS Catalog |
| AD                          | GCST007320         | 24,087 European ancestry late-onset Alzheimer's disease cases, 47,793 European ancestry individuals with family history of Alzheimer's disease, 383,378 European ancestry controls                                                                                                                                              | GWAS Catalog |
| HDL cholesterol             | ieu-b-109          | 403,943                                                                                                                                                                                                                                                                                                                         | IEU OpenGWAS |
| LDL cholesterol             | ieu-b-110          | 440,546                                                                                                                                                                                                                                                                                                                         | IEU OpenGWAS |
| Triglycerides               | ieu-b-111          | 441,016                                                                                                                                                                                                                                                                                                                         | IEU OpenGWAS |
| Adiponectin                 | ieu-a-1            | 39,883                                                                                                                                                                                                                                                                                                                          | IEU OpenGWAS |
| Saturated fatty acids       | met-d-SFA          | 114,999                                                                                                                                                                                                                                                                                                                         | IEU OpenGWAS |
| Polyunsaturated fatty acids | met-d-PUFA         | 114,999                                                                                                                                                                                                                                                                                                                         | IEU OpenGWAS |
| Omega-6 fatty acids         | met-d-Omega_6      | 114,999                                                                                                                                                                                                                                                                                                                         | IEU OpenGWAS |
| Omega-3 fatty acids         | met-d-Omega_3      | 114,999                                                                                                                                                                                                                                                                                                                         | IEU OpenGWAS |
| Monounsaturated fatty acids | met-d-MUFA         | 114,999                                                                                                                                                                                                                                                                                                                         | IEU OpenGWAS |
| Glutamate                   | met-a-466          | 7,804                                                                                                                                                                                                                                                                                                                           | IEU OpenGWAS |
| Body mass index             | ukb-b-19953        | 461,460                                                                                                                                                                                                                                                                                                                         | IEU OpenGWAS |
| Proinsulin levels           | ebi-a-GCST001212   | 10,701                                                                                                                                                                                                                                                                                                                          | IEU OpenGWAS |
| Fasting blood glucose       | ebi-a-GCST000568   | 46,186                                                                                                                                                                                                                                                                                                                          | IEU OpenGWAS |
| Apolipoprotein B            | ieu-b-108          | 439,214                                                                                                                                                                                                                                                                                                                         | IEU OpenGWAS |
| HbA1c                       | ebi-a-GCST90014006 | 389,889                                                                                                                                                                                                                                                                                                                         | IEU OpenGWAS |

Table S2. Instrumental variable table.

| SNP         | Effect allele | Other allele | N      | EAF   | $\beta$ | SE    | P-value  | R <sup>2</sup> | F-statistic |
|-------------|---------------|--------------|--------|-------|---------|-------|----------|----------------|-------------|
| rs60069508  | G             | C            | 432209 | 0.789 | -0.077  | 0.011 | 6.74E-13 | 1.19E-04       | 51.620      |
| rs12121576  | A             | G            | 432209 | 0.823 | 0.063   | 0.011 | 2.58E-08 | 7.17E-05       | 31.002      |
| rs7531118   | T             | C            | 432209 | 0.501 | -0.053  | 0.009 | 9.72E-10 | 8.65E-05       | 37.381      |
| rs66464442  | C             | A            | 432209 | 0.694 | -0.048  | 0.009 | 1.55E-08 | 7.40E-05       | 31.994      |
| rs1493694   | C             | T            | 432209 | 0.899 | -0.074  | 0.013 | 2.27E-08 | 7.23E-05       | 31.245      |
| rs9787073   | T             | C            | 432209 | 0.590 | -0.057  | 0.009 | 5.13E-11 | 9.98E-05       | 43.126      |
| rs12119128  | G             | A            | 432209 | 0.725 | -0.055  | 0.009 | 1.65E-09 | 8.41E-05       | 36.345      |
| rs17406570  | G             | C            | 432209 | 0.918 | 0.084   | 0.015 | 3.12E-08 | 7.09E-05       | 30.633      |
| rs340874    | T             | C            | 432209 | 0.450 | -0.056  | 0.008 | 5.41E-12 | 1.10E-04       | 47.533      |
| rs348330    | G             | A            | 432209 | 0.398 | 0.060   | 0.009 | 1.46E-11 | 1.05E-04       | 45.586      |
| rs1260326   | T             | C            | 432209 | 0.414 | -0.062  | 0.008 | 1.43E-13 | 1.26E-04       | 54.668      |
| rs67994640  | A             | G            | 432209 | 0.419 | 0.045   | 0.008 | 2.77E-08 | 7.14E-05       | 30.864      |
| rs17030980  | T             | C            | 432209 | 0.881 | 0.140   | 0.013 | 1.04E-25 | 2.54E-04       | 109.891     |
| rs151141151 | G             | A            | 432209 | 0.835 | -0.066  | 0.011 | 2.88E-09 | 8.16E-05       | 35.263      |
| rs7592940   | T             | C            | 432209 | 0.464 | 0.055   | 0.008 | 1.62E-11 | 1.05E-04       | 45.389      |
| rs243083    | A             | G            | 432209 | 0.546 | -0.062  | 0.008 | 1.19E-14 | 1.38E-04       | 59.562      |
| rs11688682  | G             | C            | 432209 | 0.765 | 0.088   | 0.012 | 3.48E-14 | 1.33E-04       | 57.445      |
| rs17410535  | T             | C            | 432209 | 0.719 | -0.052  | 0.009 | 7.64E-09 | 7.72E-05       | 33.364      |
| rs10195252  | T             | C            | 432209 | 0.595 | 0.077   | 0.008 | 2.17E-21 | 2.09E-04       | 90.187      |
| rs2140046   | T             | C            | 432209 | 0.645 | -0.051  | 0.009 | 9.76E-09 | 7.61E-05       | 32.888      |
| rs2713549   | A             | G            | 432209 | 0.366 | -0.087  | 0.009 | 2.53E-24 | 2.40E-04       | 103.557     |
| rs11712037  | C             | G            | 432209 | 0.879 | 0.115   | 0.013 | 8.82E-19 | 1.81E-04       | 78.307      |
| rs35352848  | T             | C            | 432209 | 0.800 | 0.072   | 0.010 | 1.69E-12 | 1.15E-04       | 49.816      |
| rs704366    | A             | G            | 432209 | 0.152 | -0.071  | 0.012 | 5.34E-09 | 7.88E-05       | 34.062      |
| rs6551302   | A             | G            | 432209 | 0.209 | -0.060  | 0.011 | 3.00E-08 | 7.10E-05       | 30.710      |
| rs7613951   | C             | T            | 432209 | 0.771 | 0.059   | 0.009 | 4.18E-10 | 9.03E-05       | 39.029      |
| rs9869577   | C             | T            | 432209 | 0.503 | 0.050   | 0.008 | 1.88E-09 | 8.35E-05       | 36.094      |
| rs7651090   | A             | G            | 432209 | 0.685 | -0.109  | 0.008 | 4.65E-38 | 3.85E-04       | 166.344     |
| rs6777684   | A             | G            | 432209 | 0.396 | -0.067  | 0.009 | 1.01E-14 | 1.39E-04       | 59.874      |
| rs1801214   | C             | T            | 432209 | 0.397 | -0.102  | 0.008 | 6.52E-35 | 3.51E-04       | 151.944     |
| rs7692088   | G             | C            | 432209 | 0.480 | -0.048  | 0.008 | 6.29E-09 | 7.81E-05       | 33.742      |
| rs10938397  | A             | G            | 432209 | 0.568 | -0.056  | 0.008 | 3.24E-12 | 1.12E-04       | 48.536      |
| rs372533566 | T             | A            | 432209 | 0.459 | 0.082   | 0.014 | 3.66E-09 | 8.05E-05       | 34.799      |
| rs151411    | A             | C            | 432209 | 0.804 | -0.065  | 0.012 | 4.02E-08 | 6.97E-05       | 30.140      |
| rs11727676  | T             | C            | 432209 | 0.906 | -0.080  | 0.013 | 2.70E-09 | 8.19E-05       | 35.390      |
| rs6837634   | G             | A            | 432209 | 0.720 | 0.067   | 0.010 | 2.48E-12 | 1.14E-04       | 49.063      |
| rs6552825   | T             | A            | 432209 | 0.819 | 0.070   | 0.010 | 2.41E-11 | 1.03E-04       | 44.608      |
| rs6889788   | G             | A            | 432209 | 0.818 | 0.068   | 0.011 | 9.12E-10 | 8.68E-05       | 37.505      |
| rs11748742  | C             | T            | 432209 | 0.556 | -0.045  | 0.008 | 3.98E-08 | 6.98E-05       | 30.160      |
| rs173964    | A             | G            | 432209 | 0.266 | -0.079  | 0.010 | 2.58E-16 | 1.55E-04       | 67.103      |
| rs76160968  | A             | G            | 432209 | 0.953 | -0.164  | 0.018 | 2.77E-20 | 1.97E-04       | 85.146      |
| rs1650507   | G             | A            | 432209 | 0.784 | -0.053  | 0.010 | 4.32E-08 | 6.94E-05       | 30.001      |
| rs2714337   | A             | T            | 432209 | 0.666 | -0.070  | 0.009 | 2.28E-15 | 1.45E-04       | 62.811      |
| rs35261542  | C             | A            | 432209 | 0.736 | -0.109  | 0.009 | 4.68E-34 | 3.42E-04       | 148.025     |
| rs2394893   | G             | A            | 432209 | 0.397 | -0.056  | 0.009 | 1.14E-09 | 8.57E-05       | 37.064      |
| rs9266640   | G             | T            | 432209 | 0.816 | -0.062  | 0.011 | 5.00E-09 | 7.91E-05       | 34.189      |
| rs9366803   | T             | C            | 432209 | 0.949 | -0.208  | 0.022 | 3.52E-21 | 2.06E-04       | 89.229      |
| rs9275532   | C             | G            | 432209 | 0.895 | -0.176  | 0.013 | 3.31E-43 | 4.39E-04       | 189.921     |
| rs9462935   | C             | T            | 432209 | 0.768 | -0.075  | 0.010 | 3.66E-15 | 1.43E-04       | 61.873      |
| rs11759026  | A             | G            | 432209 | 0.772 | -0.073  | 0.010 | 4.82E-14 | 1.31E-04       | 56.801      |
| rs9986829   | G             | A            | 432209 | 0.493 | 0.055   | 0.008 | 6.92E-11 | 9.84E-05       | 42.542      |
| rs1635852   | T             | C            | 432209 | 0.498 | 0.080   | 0.008 | 6.86E-24 | 2.35E-04       | 101.580     |
| rs7801117   | G             | A            | 432209 | 0.696 | -0.053  | 0.009 | 4.07E-09 | 8.00E-05       | 34.589      |
| rs1182435   | G             | C            | 432209 | 0.361 | -0.066  | 0.008 | 8.48E-15 | 1.39E-04       | 60.220      |
| rs73663955  | C             | A            | 432209 | 0.611 | -0.049  | 0.009 | 1.78E-08 | 7.34E-05       | 31.716      |
| rs12550613  | G             | C            | 432209 | 0.432 | -0.061  | 0.008 | 1.99E-14 | 1.35E-04       | 58.543      |

|             |   |   |        |       |        |       |          |          |         |
|-------------|---|---|--------|-------|--------|-------|----------|----------|---------|
| rs3808447   | G | A | 432209 | 0.495 | 0.069  | 0.009 | 1.01E-15 | 1.49E-04 | 64.403  |
| rs13266634  | C | T | 432209 | 0.697 | 0.092  | 0.009 | 1.21E-25 | 2.53E-04 | 109.581 |
| rs10811661  | T | C | 432209 | 0.825 | 0.154  | 0.011 | 4.10E-44 | 4.49E-04 | 194.077 |
| rs10972500  | G | A | 432209 | 0.836 | 0.063  | 0.011 | 1.76E-08 | 7.34E-05 | 31.745  |
| rs2796441   | G | A | 432209 | 0.591 | 0.054  | 0.008 | 2.33E-11 | 1.03E-04 | 44.672  |
| rs7861905   | G | C | 432209 | 0.934 | -0.104 | 0.016 | 3.22E-11 | 1.02E-04 | 44.036  |
| rs115478735 | A | T | 432209 | 0.808 | -0.062 | 0.010 | 8.66E-10 | 8.70E-05 | 37.605  |
| rs376993806 | A | G | 432209 | 0.294 | -0.067 | 0.009 | 2.25E-12 | 1.14E-04 | 49.249  |
| rs1317548   | G | A | 432209 | 0.809 | -0.084 | 0.010 | 9.14E-16 | 1.49E-04 | 64.607  |
| rs2812536   | G | C | 432209 | 0.418 | -0.052 | 0.009 | 5.72E-09 | 7.85E-05 | 33.927  |
| rs11001118  | G | A | 432209 | 0.961 | -0.115 | 0.021 | 2.98E-08 | 7.11E-05 | 30.719  |
| rs810517    | C | T | 432209 | 0.549 | 0.076  | 0.008 | 1.37E-20 | 2.00E-04 | 86.533  |
| rs10882104  | T | C | 432209 | 0.630 | 0.103  | 0.008 | 2.47E-34 | 3.45E-04 | 149.299 |
| rs2251772   | T | C | 432209 | 0.726 | 0.055  | 0.009 | 2.37E-09 | 8.25E-05 | 35.640  |
| rs57543781  | T | G | 432209 | 0.458 | -0.072 | 0.009 | 1.17E-15 | 1.48E-04 | 64.116  |
| rs4929965   | A | G | 432209 | 0.384 | 0.056  | 0.008 | 5.49E-12 | 1.10E-04 | 47.505  |
| rs234864    | G | A | 432209 | 0.460 | 0.088  | 0.008 | 2.94E-27 | 2.71E-04 | 116.955 |
| rs7124355   | A | G | 432209 | 0.341 | 0.071  | 0.009 | 4.82E-17 | 1.63E-04 | 70.407  |
| rs577964    | T | G | 432209 | 0.687 | 0.049  | 0.009 | 4.45E-08 | 6.93E-05 | 29.943  |
| rs2293576   | G | A | 432209 | 0.668 | 0.055  | 0.008 | 5.69E-11 | 9.93E-05 | 42.925  |
| rs12789028  | G | A | 432209 | 0.813 | -0.072 | 0.010 | 5.12E-13 | 1.21E-04 | 52.159  |
| rs9667947   | T | C | 432209 | 0.841 | 0.077  | 0.011 | 1.51E-11 | 1.05E-04 | 45.516  |
| rs12582638  | G | A | 432209 | 0.502 | 0.051  | 0.009 | 1.05E-08 | 7.58E-05 | 32.748  |
| rs11063069  | A | G | 432209 | 0.788 | -0.059 | 0.010 | 7.81E-10 | 8.75E-05 | 37.807  |
| rs76895963  | T | G | 432209 | 0.982 | 0.389  | 0.043 | 3.86E-19 | 1.85E-04 | 79.939  |
| rs4963661   | C | T | 432209 | 0.267 | 0.051  | 0.009 | 2.54E-08 | 7.18E-05 | 31.029  |
| rs10842987  | A | C | 432209 | 0.796 | 0.077  | 0.010 | 6.05E-14 | 1.30E-04 | 56.355  |
| rs111164090 | A | G | 432209 | 0.599 | -0.048 | 0.009 | 2.45E-08 | 7.20E-05 | 31.102  |
| rs1351394   | T | C | 432209 | 0.484 | -0.062 | 0.008 | 5.96E-15 | 1.41E-04 | 60.915  |
| rs28644184  | T | C | 432209 | 0.472 | -0.057 | 0.009 | 3.46E-11 | 1.02E-04 | 43.900  |
| rs34584161  | A | G | 432209 | 0.760 | 0.060  | 0.009 | 9.54E-11 | 9.70E-05 | 41.914  |
| rs1327315   | C | T | 432209 | 0.722 | 0.072  | 0.009 | 1.77E-15 | 1.46E-04 | 63.305  |
| rs1414319   | G | A | 432209 | 0.424 | 0.051  | 0.008 | 1.56E-09 | 8.43E-05 | 36.455  |
| rs12867262  | A | G | 432209 | 0.677 | 0.053  | 0.009 | 4.21E-09 | 7.99E-05 | 34.526  |
| rs2370982   | C | T | 432209 | 0.793 | -0.074 | 0.010 | 3.27E-14 | 1.33E-04 | 57.567  |
| rs11634182  | T | C | 432209 | 0.513 | -0.050 | 0.008 | 3.96E-09 | 8.02E-05 | 34.646  |
| rs113139584 | C | T | 432209 | 0.902 | -0.084 | 0.014 | 1.02E-09 | 8.62E-05 | 37.278  |
| rs4775467   | G | A | 432209 | 0.589 | 0.047  | 0.008 | 3.42E-09 | 8.08E-05 | 34.931  |
| rs34784690  | C | T | 432209 | 0.308 | -0.059 | 0.009 | 7.40E-11 | 9.81E-05 | 42.411  |
| rs3759831   | C | G | 432209 | 0.268 | 0.077  | 0.009 | 3.83E-18 | 1.74E-04 | 75.407  |
| rs3874658   | T | C | 432209 | 0.861 | 0.076  | 0.013 | 7.93E-09 | 7.70E-05 | 33.293  |
| rs1421085   | T | C | 432209 | 0.593 | -0.145 | 0.008 | 8.25E-74 | 7.64E-04 | 330.304 |
| rs72804106  | G | T | 432209 | 0.899 | 0.084  | 0.014 | 4.68E-10 | 8.98E-05 | 38.808  |
| rs12603448  | A | G | 432209 | 0.814 | -0.065 | 0.011 | 1.75E-09 | 8.38E-05 | 36.237  |
| rs8076462   | G | C | 432209 | 0.276 | 0.051  | 0.009 | 4.84E-08 | 6.89E-05 | 29.779  |
| rs11652684  | T | G | 432209 | 0.810 | 0.073  | 0.011 | 3.07E-12 | 1.13E-04 | 48.646  |
| rs59606758  | G | A | 432209 | 0.680 | 0.052  | 0.009 | 1.62E-09 | 8.42E-05 | 36.382  |
| rs13381608  | C | T | 432209 | 0.803 | -0.062 | 0.010 | 9.40E-10 | 8.66E-05 | 37.446  |
| rs571312    | C | A | 432209 | 0.765 | -0.065 | 0.009 | 6.88E-14 | 1.30E-04 | 56.102  |
| rs2115107   | G | A | 432209 | 0.612 | -0.047 | 0.008 | 1.25E-08 | 7.50E-05 | 32.411  |
| rs11881199  | T | C | 432209 | 0.506 | 0.044  | 0.008 | 2.95E-08 | 7.11E-05 | 30.741  |
| rs58489806  | C | T | 432209 | 0.910 | -0.102 | 0.014 | 2.22E-13 | 1.24E-04 | 53.802  |
| rs429358    | T | C | 432209 | 0.860 | 0.085  | 0.012 | 2.55E-13 | 1.24E-04 | 53.527  |
| rs35226705  | A | C | 432209 | 0.535 | -0.049 | 0.008 | 1.63E-09 | 8.41E-05 | 36.369  |
| rs1232605   | A | G | 432209 | 0.584 | -0.047 | 0.008 | 1.31E-08 | 7.48E-05 | 32.318  |
| rs6072223   | T | A | 432209 | 0.844 | -0.072 | 0.011 | 8.25E-11 | 9.76E-05 | 42.198  |
| rs3747207   | G | A | 432209 | 0.781 | -0.091 | 0.009 | 7.15E-22 | 2.14E-04 | 92.379  |

Table S3. Instrumental variable table (without APOE).

| SNP         | Effect allele | Other allele | N      | EAF   | $\beta$ | SE    | P-value  | R <sup>2</sup> | F-statistic |
|-------------|---------------|--------------|--------|-------|---------|-------|----------|----------------|-------------|
| rs1493694   | C             | T            | 432209 | 0.899 | -0.074  | 0.013 | 2.27E-08 | 7.23E-05       | 31.245      |
| rs9787073   | T             | C            | 432209 | 0.590 | -0.057  | 0.009 | 5.13E-11 | 9.98E-05       | 43.126      |
| rs348330    | G             | A            | 432209 | 0.398 | 0.060   | 0.009 | 1.46E-11 | 1.05E-04       | 45.586      |
| rs67994640  | A             | G            | 432209 | 0.419 | 0.045   | 0.008 | 2.77E-08 | 7.14E-05       | 30.864      |
| rs17030980  | T             | C            | 432209 | 0.881 | 0.140   | 0.013 | 1.04E-25 | 2.54E-04       | 109.891     |
| rs11688682  | G             | C            | 432209 | 0.765 | 0.088   | 0.012 | 3.48E-14 | 1.33E-04       | 57.445      |
| rs17410535  | T             | C            | 432209 | 0.719 | -0.052  | 0.009 | 7.64E-09 | 7.72E-05       | 33.364      |
| rs10195252  | T             | C            | 432209 | 0.595 | 0.077   | 0.008 | 2.17E-21 | 2.09E-04       | 90.187      |
| rs2140046   | T             | C            | 432209 | 0.645 | -0.051  | 0.009 | 9.76E-09 | 7.61E-05       | 32.888      |
| rs2713549   | A             | G            | 432209 | 0.366 | -0.087  | 0.009 | 2.53E-24 | 2.40E-04       | 103.557     |
| rs11712037  | C             | G            | 432209 | 0.879 | 0.115   | 0.013 | 8.82E-19 | 1.81E-04       | 78.307      |
| rs35352848  | T             | C            | 432209 | 0.800 | 0.072   | 0.010 | 1.69E-12 | 1.15E-04       | 49.816      |
| rs6551302   | A             | G            | 432209 | 0.209 | -0.060  | 0.011 | 3.00E-08 | 7.10E-05       | 30.710      |
| rs7613951   | C             | T            | 432209 | 0.771 | 0.059   | 0.009 | 4.18E-10 | 9.03E-05       | 39.029      |
| rs7651090   | A             | G            | 432209 | 0.685 | -0.109  | 0.008 | 4.65E-38 | 3.85E-04       | 166.344     |
| rs6777684   | A             | G            | 432209 | 0.396 | -0.067  | 0.009 | 1.01E-14 | 1.39E-04       | 59.874      |
| rs1801214   | C             | T            | 432209 | 0.397 | -0.102  | 0.008 | 6.52E-35 | 3.51E-04       | 151.944     |
| rs10938397  | A             | G            | 432209 | 0.568 | -0.056  | 0.008 | 3.24E-12 | 1.12E-04       | 48.536      |
| rs11727676  | T             | C            | 432209 | 0.906 | -0.080  | 0.013 | 2.70E-09 | 8.19E-05       | 35.390      |
| rs6837634   | G             | A            | 432209 | 0.720 | 0.067   | 0.010 | 2.48E-12 | 1.14E-04       | 49.063      |
| rs6552825   | T             | A            | 432209 | 0.819 | 0.070   | 0.010 | 2.41E-11 | 1.03E-04       | 44.608      |
| rs6889788   | G             | A            | 432209 | 0.818 | 0.068   | 0.011 | 9.12E-10 | 8.68E-05       | 37.505      |
| rs11748742  | C             | T            | 432209 | 0.556 | -0.045  | 0.008 | 3.98E-08 | 6.98E-05       | 30.160      |
| rs173964    | A             | G            | 432209 | 0.266 | -0.079  | 0.010 | 2.58E-16 | 1.55E-04       | 67.103      |
| rs1650507   | G             | A            | 432209 | 0.784 | -0.053  | 0.010 | 4.32E-08 | 6.94E-05       | 30.001      |
| rs2714337   | A             | T            | 432209 | 0.666 | -0.070  | 0.009 | 2.28E-15 | 1.45E-04       | 62.811      |
| rs35261542  | C             | A            | 432209 | 0.736 | -0.109  | 0.009 | 4.68E-34 | 3.42E-04       | 148.025     |
| rs9266640   | G             | T            | 432209 | 0.816 | -0.062  | 0.011 | 5.00E-09 | 7.91E-05       | 34.189      |
| rs9462935   | C             | T            | 432209 | 0.768 | -0.075  | 0.010 | 3.66E-15 | 1.43E-04       | 61.873      |
| rs9986829   | G             | A            | 432209 | 0.493 | 0.055   | 0.008 | 6.92E-11 | 9.84E-05       | 42.542      |
| rs1182435   | G             | C            | 432209 | 0.361 | -0.066  | 0.008 | 8.48E-15 | 1.39E-04       | 60.220      |
| rs73663955  | C             | A            | 432209 | 0.611 | -0.049  | 0.009 | 1.78E-08 | 7.34E-05       | 31.716      |
| rs12550613  | G             | C            | 432209 | 0.432 | -0.061  | 0.008 | 1.99E-14 | 1.35E-04       | 58.543      |
| rs3808447   | G             | A            | 432209 | 0.495 | 0.069   | 0.009 | 1.01E-15 | 1.49E-04       | 64.403      |
| rs13266634  | C             | T            | 432209 | 0.697 | 0.092   | 0.009 | 1.21E-25 | 2.53E-04       | 109.581     |
| rs2796441   | G             | A            | 432209 | 0.591 | 0.054   | 0.008 | 2.33E-11 | 1.03E-04       | 44.672      |
| rs7861905   | G             | C            | 432209 | 0.934 | -0.104  | 0.016 | 3.22E-11 | 1.02E-04       | 44.036      |
| rs115478735 | A             | T            | 432209 | 0.808 | -0.062  | 0.010 | 8.66E-10 | 8.70E-05       | 37.605      |
| rs1317548   | G             | A            | 432209 | 0.809 | -0.084  | 0.010 | 9.14E-16 | 1.49E-04       | 64.607      |
| rs2812536   | G             | C            | 432209 | 0.418 | -0.052  | 0.009 | 5.72E-09 | 7.85E-05       | 33.927      |
| rs11001118  | G             | A            | 432209 | 0.961 | -0.115  | 0.021 | 2.98E-08 | 7.11E-05       | 30.719      |
| rs810517    | C             | T            | 432209 | 0.549 | 0.076   | 0.008 | 1.37E-20 | 2.00E-04       | 86.533      |
| rs10882104  | T             | C            | 432209 | 0.630 | 0.103   | 0.008 | 2.47E-34 | 3.45E-04       | 149.299     |
| rs57543781  | T             | G            | 432209 | 0.458 | -0.072  | 0.009 | 1.17E-15 | 1.48E-04       | 64.116      |
| rs4929965   | A             | G            | 432209 | 0.384 | 0.056   | 0.008 | 5.49E-12 | 1.10E-04       | 47.505      |
| rs234864    | G             | A            | 432209 | 0.460 | 0.088   | 0.008 | 2.94E-27 | 2.71E-04       | 116.955     |
| rs7124355   | A             | G            | 432209 | 0.341 | 0.071   | 0.009 | 4.82E-17 | 1.63E-04       | 70.407      |
| rs577964    | T             | G            | 432209 | 0.687 | 0.049   | 0.009 | 4.45E-08 | 6.93E-05       | 29.943      |
| rs12582638  | G             | A            | 432209 | 0.502 | 0.051   | 0.009 | 1.05E-08 | 7.58E-05       | 32.748      |
| rs11063069  | A             | G            | 432209 | 0.788 | -0.059  | 0.010 | 7.81E-10 | 8.75E-05       | 37.807      |
| rs4963661   | C             | T            | 432209 | 0.267 | 0.051   | 0.009 | 2.54E-08 | 7.18E-05       | 31.029      |
| rs10842987  | A             | C            | 432209 | 0.796 | 0.077   | 0.010 | 6.05E-14 | 1.30E-04       | 56.355      |
| rs111164090 | A             | G            | 432209 | 0.599 | -0.048  | 0.009 | 2.45E-08 | 7.20E-05       | 31.102      |
| rs1351394   | T             | C            | 432209 | 0.484 | -0.062  | 0.008 | 5.96E-15 | 1.41E-04       | 60.915      |
| rs34584161  | A             | G            | 432209 | 0.760 | 0.060   | 0.009 | 9.54E-11 | 9.70E-05       | 41.914      |
| rs1327315   | C             | T            | 432209 | 0.722 | 0.072   | 0.009 | 1.77E-15 | 1.46E-04       | 63.305      |

|             |   |   |        |       |        |       |          |          |         |
|-------------|---|---|--------|-------|--------|-------|----------|----------|---------|
| rs1414319   | G | A | 432209 | 0.424 | 0.051  | 0.008 | 1.56E-09 | 8.43E-05 | 36.455  |
| rs2370982   | C | T | 432209 | 0.793 | -0.074 | 0.010 | 3.27E-14 | 1.33E-04 | 57.567  |
| rs11634182  | T | C | 432209 | 0.513 | -0.050 | 0.008 | 3.96E-09 | 8.02E-05 | 34.646  |
| rs113139584 | C | T | 432209 | 0.902 | -0.084 | 0.014 | 1.02E-09 | 8.62E-05 | 37.278  |
| rs4775467   | G | A | 432209 | 0.589 | 0.047  | 0.008 | 3.42E-09 | 8.08E-05 | 34.931  |
| rs34784690  | C | T | 432209 | 0.308 | -0.059 | 0.009 | 7.40E-11 | 9.81E-05 | 42.411  |
| rs3759831   | C | G | 432209 | 0.268 | 0.077  | 0.009 | 3.83E-18 | 1.74E-04 | 75.407  |
| rs3874658   | T | C | 432209 | 0.861 | 0.076  | 0.013 | 7.93E-09 | 7.70E-05 | 33.293  |
| rs1421085   | T | C | 432209 | 0.593 | -0.145 | 0.008 | 8.25E-74 | 7.64E-04 | 330.304 |
| rs72804106  | G | T | 432209 | 0.899 | 0.084  | 0.014 | 4.68E-10 | 8.98E-05 | 38.808  |
| rs59606758  | G | A | 432209 | 0.680 | 0.052  | 0.009 | 1.62E-09 | 8.42E-05 | 36.382  |
| rs571312    | C | A | 432209 | 0.765 | -0.065 | 0.009 | 6.88E-14 | 1.30E-04 | 56.102  |
| rs2115107   | G | A | 432209 | 0.612 | -0.047 | 0.008 | 1.25E-08 | 7.50E-05 | 32.411  |
| rs11881199  | T | C | 432209 | 0.506 | 0.044  | 0.008 | 2.95E-08 | 7.11E-05 | 30.741  |
| rs1232605   | A | G | 432209 | 0.584 | -0.047 | 0.008 | 1.31E-08 | 7.48E-05 | 32.318  |
| rs3747207   | G | A | 432209 | 0.781 | -0.091 | 0.009 | 7.15E-22 | 2.14E-04 | 92.379  |

Table S4. Sensitivity validation of MR (without APOE).

| Exposure         | Outcome | Cochran's Q test |          | MR-Egger intercept test |          | MR-PRESSO               |
|------------------|---------|------------------|----------|-------------------------|----------|-------------------------|
|                  |         | Q statistic      | P- value | Intercept               | P- value | P- value of global test |
| DR(without APOE) | AD      | 77.573           | 0.250    | -0.001                  | 0.293    | 0.254                   |

Table S5. Results of SMR analyses.

| eQTL data              | Trait | ProbeID         | Gene                 | TopSNP      | A1 | A2 | EAf  | $\beta$ GWAS | P GWAS   | $\beta$ eQTL | P eQTL    | $\beta$ SMR | P SMR    | P HEIDI | P FDR    |
|------------------------|-------|-----------------|----------------------|-------------|----|----|------|--------------|----------|--------------|-----------|-------------|----------|---------|----------|
| PsychENCODE Consortium | AD    | ENSG00000203710 | <i>CRI</i>           | rs679515    | C  | T  | 0.83 | -0.03        | 6.83E-19 | -0.49        | 1.53E-45  | 0.05        | 5.39E-14 | 0.24    | 2.67E-10 |
| PsychENCODE Consortium | AD    | ENSG00000168077 | <i>SCARA3</i>        | rs9331908   | T  | C  | 0.35 | 0.01         | 5.55E-11 | -0.09        | 2.69E-08  | -0.17       | 2.23E-05 | 0.07    | 1.58E-02 |
| PsychENCODE Consortium | AD    | ENSG00000172803 | <i>SNX32</i>         | rs111953392 | A  | G  | 0.16 | -0.01        | 4.22E-06 | 0.40         | 2.34E-126 | -0.03       | 6.26E-06 | 0.22    | 6.90E-03 |
| PsychENCODE Consortium | AD    | ENSG00000172500 | <i>FIBP</i>          | rs1204650   | C  | A  | 0.81 | 0.01         | 4.41E-06 | -0.14        | 5.25E-26  | -0.09       | 2.56E-05 | 0.20    | 1.69E-02 |
| PsychENCODE Consortium | AD    | ENSG00000178226 | <i>PRSS36</i>        | rs55766044  | T  | C  | 0.28 | -0.01        | 7.60E-08 | 0.19         | 4.13E-12  | -0.07       | 2.15E-05 | 0.43    | 1.58E-02 |
| PsychENCODE Consortium | AD    | ENSG00000167840 | <i>ZNF232</i>        | rs55922100  | T  | C  | 0.11 | 0.02         | 6.15E-08 | -0.38        | 1.00E-30  | -0.05       | 9.56E-07 | 0.11    | 1.36E-03 |
| PsychENCODE Consortium | AD    | ENSG00000159640 | <i>ACE</i>           | rs6504163   | T  | C  | 0.64 | 0.01         | 8.86E-07 | -0.14        | 3.44E-11  | -0.08       | 7.89E-05 | 0.18    | 4.12E-02 |
| PsychENCODE Consortium | AD    | ENSG00000087589 | <i>CASS4</i>         | rs718022    | A  | G  | 0.08 | -0.02        | 1.44E-08 | 0.23         | 1.06E-10  | -0.10       | 2.04E-05 | 0.15    | 1.58E-02 |
| PsychENCODE Consortium | DR    | ENSG00000162413 | <i>KLHL21</i>        | rs7513688   | A  | G  | 0.37 | 0.03         | 3.05E-05 | -0.08        | 4.00E-09  | -0.46       | 6.68E-04 | 0.07    | 4.60E-02 |
| PsychENCODE Consortium | DR    | ENSG00000197245 | <i>FAM110D</i>       | rs72666338  | T  | A  | 0.31 | 0.04         | 1.04E-05 | 0.22         | 2.87E-18  | 0.18        | 8.36E-05 | 0.09    | 1.26E-02 |
| PsychENCODE Consortium | DR    | ENSG00000227207 | <i>RPL31P12</i>      | rs2568960   | G  | A  | 0.64 | 0.05         | 6.79E-09 | -0.68        | 7.02E-97  | -0.07       | 2.34E-08 | 0.11    | 4.59E-05 |
| PsychENCODE Consortium | DR    | ENSG00000242252 | <i>BGLAP</i>         | rs2075165   | A  | G  | 0.46 | 0.04         | 8.10E-06 | -0.19        | 2.91E-19  | -0.19       | 6.45E-05 | 0.36    | 1.09E-02 |
| PsychENCODE Consortium | DR    | ENSG00000198952 | <i>SMG5</i>          | rs7542993   | C  | A  | 0.46 | 0.04         | 2.13E-05 | -0.07        | 1.79E-13  | -0.50       | 2.32E-04 | 0.59    | 2.45E-02 |
| PsychENCODE Consortium | DR    | ENSG00000198468 | <i>FLVCR1-AS1</i>    | rs10779588  | C  | G  | 0.53 | 0.03         | 6.47E-04 | 0.86         | 7.25E-258 | 0.03        | 6.88E-04 | 0.07    | 4.60E-02 |
| PsychENCODE Consortium | DR    | ENSG00000162769 | <i>FLVCR1</i>        | rs41297446  | T  | C  | 0.19 | -0.04        | 2.03E-05 | 0.15         | 2.05E-13  | -0.29       | 2.27E-04 | 0.27    | 2.43E-02 |
| PsychENCODE Consortium | DR    | ENSG00000115486 | <i>GGCX</i>          | rs2366639   | G  | A  | 0.43 | -0.03        | 6.11E-05 | 0.25         | 1.35E-32  | -0.13       | 1.46E-04 | 0.30    | 1.84E-02 |
| PsychENCODE Consortium | DR    | ENSG00000152253 | <i>SPC25</i>         | rs7606215   | T  | A  | 0.09 | -0.05        | 2.15E-04 | -0.60        | 2.25E-40  | 0.08        | 3.64E-04 | 0.15    | 3.14E-02 |
| PsychENCODE Consortium | DR    | ENSG00000145029 | <i>NICN1</i>         | rs6798112   | G  | A  | 0.78 | 0.04         | 8.57E-05 | -0.12        | 5.76E-14  | -0.31       | 5.00E-04 | 0.53    | 3.84E-02 |
| PsychENCODE Consortium | DR    | ENSG00000242142 | <i>SERBP1P3</i>      | rs2581800   | G  | A  | 0.60 | 0.03         | 1.64E-04 | 0.34         | 8.08E-55  | 0.09        | 2.49E-04 | 0.73    | 2.53E-02 |
| PsychENCODE Consortium | DR    | ENSG00000272305 | <i>RP11-894J14.5</i> | rs1864367   | C  | T  | 0.60 | 0.03         | 2.29E-04 | 0.31         | 1.44E-26  | 0.10        | 4.96E-04 | 0.50    | 3.84E-02 |
| PsychENCODE Consortium | DR    | ENSG00000168374 | <i>ARF4</i>          | rs10049375  | A  | G  | 0.15 | 0.05         | 1.39E-05 | 0.12         | 6.31E-18  | 0.38        | 1.04E-04 | 0.38    | 1.48E-02 |
| PsychENCODE Consortium | DR    | ENSG00000175105 | <i>ZNF654</i>        | rs7637431   | C  | T  | 0.85 | 0.06         | 7.54E-06 | -0.06        | 2.34E-11  | -0.87       | 1.99E-04 | 0.41    | 2.25E-02 |
| PsychENCODE Consortium | DR    | ENSG00000179021 | <i>C3orf38</i>       | rs6551293   | T  | C  | 0.84 | 0.05         | 3.52E-05 | -0.08        | 6.21E-13  | -0.60       | 3.35E-04 | 0.32    | 2.98E-02 |
| PsychENCODE Consortium | DR    | ENSG00000169087 | <i>HSPBAP1</i>       | rs34876089  | C  | T  | 0.14 | -0.04        | 2.20E-04 | -0.24        | 1.68E-35  | 0.17        | 3.98E-04 | 0.06    | 3.31E-02 |
| PsychENCODE Consortium | DR    | ENSG00000171084 | <i>FAM86JP</i>       | rs13065725  | A  | C  | 0.17 | -0.04        | 3.41E-04 | 0.86         | 1.30E-155 | -0.05       | 3.86E-04 | 0.19    | 3.27E-02 |
| PsychENCODE Consortium | DR    | ENSG00000181322 | <i>NME9</i>          | rs7637162   | G  | A  | 0.74 | -0.04        | 1.10E-05 | 0.27         | 6.40E-30  | -0.14       | 4.14E-05 | 0.28    | 7.90E-03 |
| PsychENCODE Consortium | DR    | ENSG00000158220 | <i>ESYT3</i>         | rs1109088   | A  | G  | 0.57 | -0.03        | 3.08E-05 | -0.11        | 2.59E-18  | 0.31        | 1.69E-04 | 0.13    | 1.97E-02 |
| PsychENCODE Consortium | DR    | ENSG00000203632 | <i>AC007690.1</i>    | rs28366036  | C  | A  | 0.36 | -0.04        | 3.58E-05 | -0.13        | 1.61E-16  | 0.28        | 2.20E-04 | 0.58    | 2.42E-02 |
| PsychENCODE Consortium | DR    | ENSG00000109501 | <i>WFS1</i>          | rs9457      | C  | G  | 0.59 | 0.10         | 9.69E-34 | 0.12         | 1.45E-29  | 0.86        | 1.49E-16 | 0.16    | 1.46E-12 |
| PsychENCODE Consortium | DR    | ENSG00000145284 | <i>SCD5</i>          | rs7670515   | T  | A  | 0.65 | -0.03        | 1.09E-04 | -0.16        | 3.05E-31  | 0.20        | 2.42E-04 | 0.21    | 2.48E-02 |
| PsychENCODE Consortium | DR    | ENSG00000152583 | <i>SPARCL1</i>       | rs57201082  | T  | C  | 0.45 | -0.03        | 1.52E-04 | -0.07        | 4.72E-14  | 0.47        | 7.11E-04 | 0.63    | 4.69E-02 |
| PsychENCODE Consortium | DR    | ENSG00000246560 | <i>RP11-10L12.4</i>  | rs223341    | A  | T  | 0.47 | -0.03        | 2.82E-04 | -0.36        | 5.18E-40  | 0.09        | 4.61E-04 | 0.25    | 3.66E-02 |
| PsychENCODE Consortium | DR    | ENSG00000145354 | <i>CISD2</i>         | rs10004342  | G  | A  | 0.49 | -0.03        | 1.10E-04 | -0.07        | 1.65E-12  | 0.44        | 6.93E-04 | 0.81    | 4.60E-02 |
| PsychENCODE Consortium | DR    | ENSG00000164037 | <i>SLC9B1</i>        | rs4699039   | A  | C  | 0.49 | -0.03        | 6.11E-05 | -0.24        | 2.26E-31  | 0.14        | 1.50E-04 | 0.88    | 1.87E-02 |
| PsychENCODE Consortium | DR    | ENSG00000113594 | <i>LIFR</i>          | rs327287    | T  | G  | 0.53 | 0.04         | 3.82E-07 | 0.06         | 2.00E-20  | 0.64        | 8.48E-06 | 0.50    | 2.98E-03 |
| PsychENCODE Consortium | DR    | ENSG00000272335 | <i>RP11-53O19.3</i>  | rs7736952   | T  | C  | 0.37 | 0.04         | 1.81E-05 | -0.16        | 3.92E-43  | -0.23       | 4.26E-05 | 0.05    | 7.90E-03 |

|                        |    |                 |                      |             |   |   |      |       |          |       |           |       |          |      |          |
|------------------------|----|-----------------|----------------------|-------------|---|---|------|-------|----------|-------|-----------|-------|----------|------|----------|
| PsychENCODE Consortium | DR | ENSG00000170571 | <i>EMB</i>           | rs10076490  | C | A | 0.44 | 0.04  | 9.49E-06 | 0.19  | 2.10E-67  | 0.19  | 1.78E-05 | 0.70 | 4.49E-03 |
| PsychENCODE Consortium | DR | ENSG00000132837 | <i>DMGDH</i>         | rs10052346  | T | G | 0.37 | -0.03 | 4.55E-05 | 0.21  | 4.60E-18  | -0.16 | 2.25E-04 | 0.34 | 2.43E-02 |
| PsychENCODE Consortium | DR | ENSG00000250378 | <i>RP11-119J18.1</i> | rs4292443   | T | C | 0.34 | 0.03  | 2.04E-04 | -0.28 | 6.99E-16  | -0.11 | 7.42E-04 | 0.42 | 4.78E-02 |
| PsychENCODE Consortium | DR | ENSG00000137414 | <i>FAM8A1</i>        | rs6937765   | G | A | 0.23 | 0.04  | 3.69E-05 | 0.08  | 6.27E-12  | 0.53  | 4.04E-04 | 0.06 | 3.31E-02 |
| PsychENCODE Consortium | DR | ENSG00000047936 | <i>ROS1</i>          | rs9320602   | C | T | 0.14 | -0.04 | 4.72E-04 | 0.26  | 5.41E-35  | -0.15 | 7.69E-04 | 0.25 | 4.84E-02 |
| PsychENCODE Consortium | DR | ENSG00000228408 | <i>RP1-111D6.3</i>   | rs9498250   | C | T | 0.30 | 0.03  | 1.01E-04 | 0.46  | 1.76E-107 | 0.07  | 1.29E-04 | 0.93 | 1.72E-02 |
| PsychENCODE Consortium | DR | ENSG00000106123 | <i>EPHB6</i>         | rs10270914  | T | C | 0.06 | 0.07  | 1.81E-04 | -0.14 | 2.89E-20  | -0.47 | 5.22E-04 | 0.06 | 3.98E-02 |
| PsychENCODE Consortium | DR | ENSG00000165125 | <i>TRPV6</i>         | rs10270914  | T | C | 0.06 | 0.07  | 1.81E-04 | -0.16 | 1.54E-17  | -0.42 | 6.08E-04 | 0.31 | 4.43E-02 |
| PsychENCODE Consortium | DR | ENSG00000173295 | <i>FAM86B3P</i>      | rs2945253   | C | T | 0.49 | 0.05  | 9.55E-05 | -0.61 | 1.86E-120 | -0.08 | 1.19E-04 | 0.18 | 1.62E-02 |
| PsychENCODE Consortium | DR | ENSG00000255457 | <i>RP11-436P7.1</i>  | rs1481907   | C | G | 0.13 | 0.05  | 6.82E-05 | 0.26  | 6.87E-14  | 0.18  | 4.37E-04 | 0.21 | 3.55E-02 |
| PsychENCODE Consortium | DR | ENSG00000078674 | <i>PCMI</i>          | rs850835    | G | C | 0.62 | 0.04  | 4.09E-06 | -0.12 | 1.31E-50  | -0.34 | 1.07E-05 | 0.79 | 3.39E-03 |
| PsychENCODE Consortium | DR | ENSG00000241852 | <i>C8orf58</i>       | rs13271626  | G | C | 0.33 | 0.04  | 1.72E-05 | 0.18  | 5.95E-17  | 0.21  | 1.32E-04 | 0.85 | 1.72E-02 |
| PsychENCODE Consortium | DR | ENSG00000133863 | <i>TEX15</i>         | rs2543615   | C | T | 0.55 | -0.04 | 4.95E-06 | -0.09 | 2.71E-11  | 0.41  | 1.65E-04 | 0.35 | 1.96E-02 |
| PsychENCODE Consortium | DR | ENSG00000029534 | <i>ANK1</i>          | rs3802315   | T | G | 0.24 | -0.07 | 2.64E-12 | -0.11 | 3.19E-08  | 0.63  | 1.43E-05 | 0.11 | 4.03E-03 |
| PsychENCODE Consortium | DR | ENSG00000253596 | <i>CTD-2320G14.2</i> | rs7846006   | G | A | 0.45 | -0.03 | 1.46E-04 | -0.38 | 2.97E-35  | 0.09  | 2.82E-04 | 0.54 | 2.74E-02 |
| PsychENCODE Consortium | DR | ENSG00000231990 | <i>RP11-53B5.1</i>   | rs36110289  | T | G | 0.14 | 0.04  | 1.48E-04 | 0.29  | 1.47E-13  | 0.15  | 7.37E-04 | 0.10 | 4.78E-02 |
| PsychENCODE Consortium | DR | ENSG00000011454 | <i>RABGAP1</i>       | rs12379325  | G | T | 0.12 | -0.05 | 1.37E-05 | -0.14 | 4.59E-19  | 0.40  | 9.27E-05 | 0.07 | 1.38E-02 |
| PsychENCODE Consortium | DR | ENSG00000213221 | <i>DNLZ</i>          | rs3812553   | T | G | 0.04 | 0.09  | 7.57E-05 | 0.90  | 1.38E-81  | 0.10  | 1.06E-04 | 0.07 | 1.49E-02 |
| PsychENCODE Consortium | DR | ENSG00000165626 | <i>BEND7</i>         | rs7918607   | C | A | 0.34 | -0.04 | 2.81E-05 | -0.21 | 1.80E-12  | 0.18  | 3.17E-04 | 0.13 | 2.91E-02 |
| PsychENCODE Consortium | DR | ENSG00000075826 | <i>SEC31B</i>        | rs10509744  | T | C | 0.19 | -0.04 | 1.06E-04 | -0.18 | 4.36E-44  | 0.21  | 1.89E-04 | 0.57 | 2.16E-02 |
| PsychENCODE Consortium | DR | ENSG00000203886 | <i>CYP17A1-AS1</i>   | rs284862    | T | C | 0.57 | -0.03 | 4.90E-06 | -0.20 | 1.10E-13  | 0.18  | 9.95E-05 | 0.16 | 1.44E-02 |
| PsychENCODE Consortium | DR | ENSG00000148798 | <i>INA</i>           | rs11191641  | T | C | 0.48 | -0.03 | 1.63E-04 | 0.11  | 3.68E-60  | -0.29 | 2.38E-04 | 0.06 | 2.46E-02 |
| PsychENCODE Consortium | DR | ENSG00000260461 | <i>RP11-541N10.3</i> | rs35223321  | T | C | 0.54 | 0.04  | 5.46E-07 | 0.14  | 8.51E-22  | 0.28  | 8.97E-06 | 0.14 | 3.04E-03 |
| PsychENCODE Consortium | DR | ENSG00000170959 | <i>DCDC1</i>         | rs7123466   | C | T | 0.29 | 0.04  | 2.60E-05 | -0.11 | 1.61E-08  | -0.35 | 7.42E-04 | 0.07 | 4.78E-02 |
| PsychENCODE Consortium | DR | ENSG00000149485 | <i>FADS1</i>         | rs174544    | A | C | 0.30 | -0.03 | 1.68E-04 | -0.30 | 2.38E-67  | 0.11  | 2.35E-04 | 0.72 | 2.46E-02 |
| PsychENCODE Consortium | DR | ENSG00000172803 | <i>SNX32</i>         | rs111953392 | A | G | 0.16 | 0.06  | 5.90E-08 | 0.40  | 2.34E-126 | 0.14  | 1.24E-07 | 0.07 | 1.52E-04 |
| PsychENCODE Consortium | DR | ENSG00000172543 | <i>CTSW</i>          | rs596002    | G | A | 0.81 | -0.05 | 1.21E-07 | 0.26  | 1.00E-15  | -0.20 | 9.94E-06 | 0.49 | 3.26E-03 |
| PsychENCODE Consortium | DR | ENSG00000172500 | <i>FIBP</i>          | rs1204650   | C | A | 0.81 | -0.05 | 1.18E-07 | -0.14 | 5.25E-26  | 0.38  | 2.21E-06 | 0.85 | 1.11E-03 |
| PsychENCODE Consortium | DR | ENSG00000261070 | <i>RP11-554A11.8</i> | rs72932540  | G | A | 0.12 | -0.06 | 2.69E-05 | 0.37  | 1.18E-09  | -0.15 | 5.50E-04 | 0.39 | 4.12E-02 |
| PsychENCODE Consortium | DR | ENSG00000204381 | <i>LAYN</i>          | rs682239    | T | C | 0.59 | -0.03 | 3.70E-04 | 0.24  | 7.67E-77  | -0.12 | 4.71E-04 | 0.37 | 3.69E-02 |
| PsychENCODE Consortium | DR | ENSG00000257815 | <i>RP11-611E13.2</i> | rs79758480  | C | T | 0.16 | 0.04  | 4.46E-04 | 0.50  | 5.33E-46  | 0.08  | 6.52E-04 | 0.36 | 4.58E-02 |
| PsychENCODE Consortium | DR | ENSG00000135100 | <i>HNF1A</i>         | rs2254971   | C | G | 0.40 | 0.03  | 1.30E-04 | 0.10  | 9.40E-22  | 0.31  | 3.81E-04 | 0.08 | 3.25E-02 |
| PsychENCODE Consortium | DR | ENSG00000235423 | <i>RP11-282O18.3</i> | rs10744149  | A | T | 0.77 | 0.04  | 6.87E-05 | 0.17  | 3.22E-11  | 0.24  | 6.41E-04 | 0.05 | 4.56E-02 |
| PsychENCODE Consortium | DR | ENSG00000120697 | <i>ALG5</i>          | rs9576146   | C | G | 0.38 | -0.04 | 4.12E-05 | -0.08 | 3.43E-09  | 0.51  | 7.54E-04 | 0.21 | 4.78E-02 |
| PsychENCODE Consortium | DR | ENSG00000087302 | <i>C14orf166</i>     | rs57496273  | C | T | 0.15 | 0.05  | 4.51E-05 | -0.43 | 3.49E-97  | -0.12 | 6.23E-05 | 0.66 | 1.09E-02 |
| PsychENCODE Consortium | DR | ENSG00000015133 | <i>CCDC88C</i>       | rs1285847   | C | T | 0.48 | 0.04  | 1.81E-05 | 0.22  | 5.16E-24  | 0.16  | 7.93E-05 | 0.58 | 1.24E-02 |
| PsychENCODE Consortium | DR | ENSG00000011114 | <i>BTBD7</i>         | rs11628518  | T | C | 0.16 | -0.04 | 4.11E-05 | -0.08 | 1.20E-09  | 0.56  | 6.74E-04 | 0.42 | 4.60E-02 |
| PsychENCODE Consortium | DR | ENSG00000249839 | <i>AC011330.5</i>    | rs2957636   | G | A | 0.28 | -0.03 | 6.85E-04 | -0.53 | 6.47E-105 | 0.06  | 7.94E-04 | 0.36 | 4.94E-02 |
| PsychENCODE Consortium | DR | ENSG00000157823 | <i>AP3S2</i>         | rs4932144   | C | T | 0.74 | -0.08 | 2.26E-17 | -0.16 | 4.57E-10  | 0.48  | 5.11E-07 | 0.06 | 4.18E-04 |

|                        |    |                 |                      |             |   |   |      |       |          |       |           |       |          |      |            |
|------------------------|----|-----------------|----------------------|-------------|---|---|------|-------|----------|-------|-----------|-------|----------|------|------------|
| PsychENCODE Consortium | DR | ENSG00000260769 | <i>RP11-491F9.5</i>  | rs27920     | A | T | 0.59 | -0.04 | 7.31E-06 | 0.17  | 3.31E-12  | -0.25 | 1.63E-04 | 0.63 | 1.96E-02   |
| PsychENCODE Consortium | DR | ENSG00000103479 | <i>RBL2</i>          | rs11859538  | G | A | 0.47 | -0.03 | 6.81E-04 | -0.26 | 4.59E-156 | 0.11  | 7.52E-04 | 0.25 | 4.78E-02   |
| PsychENCODE Consortium | DR | ENSG00000050820 | <i>BCAR1</i>         | rs8062169   | T | C | 0.14 | -0.08 | 8.40E-10 | 0.08  | 3.13E-10  | -0.97 | 1.12E-05 | 0.06 | 3.43E-03   |
| PsychENCODE Consortium | DR | ENSG00000267681 | <i>CTD-3199J23.6</i> | rs11650272  | G | A | 0.36 | 0.05  | 1.04E-07 | -0.32 | 6.67E-18  | -0.14 | 5.99E-06 | 0.32 | 2.56E-03   |
| PsychENCODE Consortium | DR | ENSG00000188554 | <i>NBR1</i>          | rs11650272  | G | A | 0.36 | 0.05  | 1.04E-07 | -0.12 | 1.81E-16  | -0.40 | 7.90E-06 | 0.39 | 2.98E-03   |
| PsychENCODE Consortium | DR | ENSG00000225190 | <i>PLEKHM1</i>       | rs79724577  | C | A | 0.19 | 0.04  | 5.19E-05 | -0.18 | 6.10E-17  | -0.22 | 2.70E-04 | 0.07 | 2.68E-02   |
| PsychENCODE Consortium | DR | ENSG00000264070 | <i>DND1P1</i>        | rs62063208  | A | C | 0.24 | 0.05  | 1.75E-06 | -0.34 | 1.87E-19  | -0.13 | 2.40E-05 | 0.51 | 5.76E-03   |
| PsychENCODE Consortium | DR | ENSG00000185294 | <i>SPPL2C</i>        | rs17577369  | G | A | 0.24 | 0.05  | 5.07E-07 | -0.25 | 9.69E-13  | -0.20 | 4.00E-05 | 0.07 | 7.90E-03   |
| PsychENCODE Consortium | DR | ENSG00000262500 | <i>RP11-259G18.2</i> | rs199498    | C | T | 0.22 | 0.04  | 1.99E-05 | -0.23 | 1.91E-10  | -0.20 | 3.94E-04 | 0.45 | 3.31E-02   |
| PsychENCODE Consortium | DR | ENSG00000261575 | <i>RP11-259G18.1</i> | rs73984689  | A | G | 0.24 | 0.05  | 2.28E-06 | -0.33 | 1.04E-13  | -0.14 | 6.63E-05 | 0.08 | 1.10E-02   |
| PsychENCODE Consortium | DR | ENSG00000238083 | <i>LRRC37A2</i>      | rs3874943   | G | A | 0.50 | -0.05 | 7.28E-07 | -0.72 | 1.15E-155 | 0.07  | 1.12E-06 | 0.19 | 8.40E-04   |
| PsychENCODE Consortium | DR | ENSG00000232300 | <i>FAM215B</i>       | rs3874943   | G | A | 0.50 | -0.05 | 7.28E-07 | -0.40 | 1.67E-59  | 0.13  | 2.15E-06 | 0.10 | 1.11E-03   |
| PsychENCODE Consortium | DR | ENSG00000073969 | <i>NSF</i>           | rs3874943   | G | A | 0.50 | -0.05 | 7.28E-07 | -0.13 | 2.36E-20  | 0.40  | 1.26E-05 | 0.18 | 3.76E-03   |
| PsychENCODE Consortium | DR | ENSG00000263142 | <i>LRRC37A17P</i>    | rs4630591   | T | C | 0.21 | 0.05  | 2.24E-06 | -0.16 | 2.28E-08  | -0.30 | 3.05E-04 | 0.33 | 2.86E-02   |
| PsychENCODE Consortium | DR | ENSG00000159202 | <i>UBE2Z</i>         | rs12939844  | A | T | 0.26 | -0.05 | 2.21E-09 | -0.17 | 6.63E-38  | 0.32  | 5.81E-08 | 0.12 | 8.16E-05   |
| PsychENCODE Consortium | DR | ENSG00000005884 | <i>ITGA3</i>         | rs847696    | A | G | 0.09 | -0.05 | 3.03E-05 | -0.16 | 7.81E-10  | 0.31  | 5.57E-04 | 0.54 | 4.12E-02   |
| PsychENCODE Consortium | DR | ENSG00000055483 | <i>USP36</i>         | rs55779573  | C | T | 0.52 | -0.04 | 2.78E-08 | 0.19  | 8.12E-40  | -0.23 | 3.05E-07 | 0.06 | 2.73E-04   |
| PsychENCODE Consortium | DR | ENSG00000134769 | <i>DTNA</i>          | rs17557695  | A | T | 0.27 | -0.03 | 2.06E-04 | 0.11  | 2.69E-20  | -0.30 | 5.74E-04 | 0.24 | 4.21E-02   |
| PsychENCODE Consortium | DR | ENSG00000141646 | <i>SMAD4</i>         | rs12964229  | A | G | 0.40 | -0.04 | 1.26E-06 | 0.08  | 4.46E-08  | -0.54 | 2.86E-04 | 0.15 | 2.75E-02   |
| PsychENCODE Consortium | DR | ENSG00000166603 | <i>MC4R</i>          | rs11664167  | A | T | 0.34 | 0.05  | 5.00E-08 | -0.11 | 1.15E-10  | -0.41 | 3.15E-05 | 0.08 | 7.20E-03   |
| PsychENCODE Consortium | DR | ENSG00000116014 | <i>KISS1R</i>        | rs2965285   | G | A | 0.07 | 0.07  | 2.61E-07 | 0.28  | 1.37E-08  | 0.23  | 1.37E-04 | 0.95 | 1.74E-02   |
| PsychENCODE Consortium | DR | ENSG00000124164 | <i>VAPB</i>          | rs2268915   | C | G | 0.39 | -0.03 | 4.79E-05 | 0.20  | 4.09E-41  | -0.17 | 9.97E-05 | 0.55 | 1.44E-02   |
| PsychENCODE Consortium | DR | ENSG00000183506 | <i>PI4KAP2</i>       | rs2072516   | A | G | 0.48 | 0.03  | 6.01E-04 | 0.42  | 2.05E-131 | 0.07  | 6.79E-04 | 0.25 | 4.60E-02   |
| PsychENCODE Consortium | DR | ENSG00000100191 | <i>SLC5A4</i>        | rs57676160  | G | A | 0.04 | 0.06  | 2.65E-04 | 1.20  | 3.53E-84  | 0.05  | 3.37E-04 | 0.11 | 2.98E-02   |
| PsychENCODE Consortium | DR | ENSG00000128335 | <i>APOL2</i>         | rs5756111   | A | G | 0.39 | 0.04  | 5.34E-04 | -0.40 | 1.18E-78  | -0.09 | 6.61E-04 | 0.94 | 4.60E-02   |
| PsychENCODE Consortium | DR | ENSG00000100395 | <i>L3MBTL2</i>       | rs139452    | C | G | 0.36 | -0.03 | 2.24E-04 | -0.14 | 1.28E-22  | 0.21  | 5.55E-04 | 0.63 | 4.12E-02   |
| whole blood eQTL-GTEX  | AD | ENSG00000168918 | <i>INPP5D</i>        | rs6715767   | A | G | 0.43 | 0.01  | 1.59E-06 | -0.17 | 5.63E-16  | -0.07 | 3.65E-05 | 0.05 | 0.02069482 |
| whole blood eQTL-GTEX  | AD | ENSG00000172543 | <i>CTSW</i>          | rs645900    | A | G | 0.81 | 0.01  | 5.40E-06 | 0.35  | 5.43E-81  | 0.03  | 9.67E-06 | 0.16 | 0.01096928 |
| whole blood eQTL-GTEX  | AD | ENSG00000103811 | <i>CTSH</i>          | rs2289702   | T | C | 0.11 | -0.01 | 5.18E-05 | -0.65 | 5.71E-49  | 0.02  | 9.52E-05 | 0.42 | 0.03087935 |
| whole blood eQTL-GTEX  | AD | ENSG00000167394 | <i>ZNF668</i>        | rs4889530   | A | T | 0.40 | 0.01  | 1.09E-05 | 0.30  | 2.14E-21  | 0.03  | 6.58E-05 | 0.07 | 0.02488326 |
| whole blood eQTL-GTEX  | AD | ENSG00000103507 | <i>BCKDK</i>         | rs749671    | A | G | 0.38 | 0.01  | 9.84E-06 | 0.12  | 4.68E-14  | 0.08  | 1.37E-04 | 0.23 | 0.03884404 |
| whole blood eQTL-GTEX  | AD | ENSG00000234327 | <i>AC012146.7</i>    | rs56197642  | G | C | 0.11 | 0.02  | 1.26E-07 | -0.38 | 3.04E-12  | -0.05 | 2.53E-05 | 0.65 | 0.01721215 |
| whole blood eQTL-GTEX  | AD | ENSG00000104783 | <i>KCNN4</i>         | rs11879798  | A | G | 0.34 | -0.01 | 5.49E-05 | 0.50  | 9.65E-62  | -0.02 | 8.88E-05 | 0.36 | 0.03023158 |
| whole blood eQTL-GTEX  | AD | ENSG00000087589 | <i>CASS4</i>         | rs6014722   | A | T | 0.09 | -0.02 | 2.16E-09 | -0.25 | 1.79E-15  | 0.09  | 1.73E-06 | 0.11 | 0.00235236 |
| whole blood eQTL-GTEX  | DR | ENSG00000001460 | <i>STPG1</i>         | rs7536873   | T | C | 0.25 | 0.04  | 7.50E-05 | -0.29 | 6.94E-12  | -0.14 | 6.05E-04 | 0.18 | 2.79E-02   |
| whole blood eQTL-GTEX  | DR | ENSG00000090621 | <i>PABPC4</i>        | rs61779310  | G | C | 0.23 | 0.08  | 7.32E-13 | -0.11 | 3.16E-11  | -0.69 | 1.10E-06 | 0.66 | 3.38E-04   |
| whole blood eQTL-GTEX  | DR | ENSG00000227533 | <i>SLC2A1-AS1</i>    | rs71654267  | A | G | 0.16 | 0.05  | 2.62E-05 | 0.51  | 4.98E-23  | 0.09  | 1.09E-04 | 0.74 | 8.28E-03   |
| whole blood eQTL-GTEX  | DR | ENSG00000162437 | <i>RAVER2</i>        | rs567910619 | T | C | 0.01 | -0.23 | 9.28E-05 | 2.50  | 2.78E-41  | -0.09 | 1.74E-04 | 0.75 | 1.18E-02   |
| whole blood eQTL-GTEX  | DR | ENSG00000143363 | <i>PRUNE</i>         | rs140386498 | T | A | 0.02 | -0.15 | 5.61E-05 | 0.49  | 2.88E-08  | -0.31 | 1.11E-03 | 0.54 | 4.22E-02   |

|                       |    |                 |                     |            |   |   |      |       |          |       |           |       |          |      |          |
|-----------------------|----|-----------------|---------------------|------------|---|---|------|-------|----------|-------|-----------|-------|----------|------|----------|
| whole blood eQTL-GTEX | DR | ENSG00000160781 | <i>PAQR6</i>        | rs6701440  | G | A | 0.46 | 0.03  | 1.83E-05 | -0.71 | 0.00E+00  | -0.05 | 2.06E-05 | 0.25 | 2.50E-03 |
| whole blood eQTL-GTEX | DR | ENSG00000198952 | <i>SMG5</i>         | rs6701440  | G | A | 0.46 | 0.03  | 1.83E-05 | -0.77 | 0.00E+00  | -0.05 | 2.02E-05 | 0.21 | 2.50E-03 |
| whole blood eQTL-GTEX | DR | ENSG00000163472 | <i>TMEM79</i>       | rs3762281  | G | A | 0.46 | 0.03  | 1.46E-04 | -0.34 | 1.98E-58  | -0.10 | 2.19E-04 | 0.06 | 1.34E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000198715 | <i>C1orf85</i>      | rs6701440  | G | A | 0.46 | 0.03  | 1.83E-05 | -0.91 | 0.00E+00  | -0.04 | 2.05E-05 | 0.17 | 2.50E-03 |
| whole blood eQTL-GTEX | DR | ENSG00000135862 | <i>LAMC1</i>        | rs11588675 | T | C | 0.43 | 0.05  | 8.04E-10 | -0.46 | 1.87E-39  | -0.11 | 2.61E-08 | 0.37 | 1.35E-05 |
| whole blood eQTL-GTEX | DR | ENSG00000117280 | <i>RAB7L1</i>       | rs708723   | T | C | 0.53 | -0.03 | 7.33E-04 | 0.31  | 3.09E-41  | -0.09 | 1.05E-03 | 0.17 | 4.08E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000162769 | <i>FLVCR1</i>       | rs2291771  | C | T | 0.19 | -0.04 | 1.50E-05 | 0.64  | 1.71E-78  | -0.07 | 2.47E-05 | 0.21 | 2.78E-03 |
| whole blood eQTL-GTEX | DR | ENSG00000234936 | <i>AC010883.5</i>   | rs13399366 | T | C | 0.11 | -0.12 | 1.18E-20 | 0.23  | 1.38E-08  | -0.52 | 1.25E-06 | 0.12 | 3.41E-04 |
| whole blood eQTL-GTEX | DR | ENSG00000170340 | <i>B3GNT2</i>       | rs11888817 | C | T | 0.65 | 0.04  | 1.34E-05 | 0.34  | 1.67E-74  | 0.11  | 2.29E-05 | 0.06 | 2.66E-03 |
| whole blood eQTL-GTEX | DR | ENSG00000011523 | <i>CEP68</i>        | rs2080385  | T | G | 0.26 | -0.04 | 6.42E-05 | -0.42 | 1.60E-37  | 0.10  | 1.36E-04 | 0.11 | 9.86E-03 |
| whole blood eQTL-GTEX | DR | ENSG00000253497 | <i>IGKV1-13</i>     | rs72848920 | T | C | 0.08 | 0.06  | 1.40E-04 | 1.17  | 6.07E-82  | 0.05  | 1.88E-04 | 0.49 | 1.22E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000073737 | <i>DHRS9</i>        | rs2302698  | G | A | 0.48 | -0.03 | 6.76E-04 | 0.29  | 4.67E-54  | -0.10 | 9.01E-04 | 0.20 | 3.70E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000178074 | <i>C2orf69</i>      | rs2163548  | G | C | 0.13 | -0.05 | 4.17E-05 | 0.13  | 1.01E-08  | -0.37 | 8.59E-04 | 0.69 | 3.64E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000064012 | <i>CASP8</i>        | rs3185378  | C | G | 0.61 | 0.04  | 2.69E-05 | 0.28  | 1.01E-60  | 0.12  | 4.74E-05 | 0.09 | 4.57E-03 |
| whole blood eQTL-GTEX | DR | ENSG00000183625 | <i>CCR3</i>         | rs2201150  | C | T | 0.64 | 0.03  | 4.00E-04 | 0.42  | 3.33E-37  | 0.07  | 6.47E-04 | 0.40 | 2.93E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000163823 | <i>CCR1</i>         | rs2201150  | C | T | 0.64 | 0.03  | 4.00E-04 | -0.39 | 7.67E-58  | -0.08 | 5.46E-04 | 0.17 | 2.69E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000114650 | <i>SCAP</i>         | rs57346147 | G | C | 0.40 | -0.03 | 5.67E-04 | -0.13 | 7.07E-20  | 0.21  | 1.26E-03 | 0.08 | 4.65E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000178467 | <i>P4HTM</i>        | rs6442131  | A | C | 0.78 | 0.04  | 8.38E-05 | 0.11  | 1.67E-08  | 0.34  | 1.25E-03 | 0.16 | 4.65E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000198218 | <i>QRICH1</i>       | rs3087866  | C | T | 0.79 | 0.03  | 1.35E-04 | -0.18 | 5.17E-16  | -0.20 | 5.53E-04 | 0.38 | 2.69E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000242142 | <i>SERBP1P3</i>     | rs1864367  | C | T | 0.60 | 0.03  | 2.29E-04 | 0.46  | 1.06E-25  | 0.07  | 5.09E-04 | 0.60 | 2.61E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000163933 | <i>RFT1</i>         | rs1864367  | C | T | 0.60 | 0.03  | 2.29E-04 | -0.13 | 1.20E-10  | -0.24 | 1.38E-03 | 0.20 | 4.96E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000163946 | <i>FAM208A</i>      | rs61456176 | A | G | 0.04 | 0.07  | 2.47E-04 | 0.30  | 6.64E-24  | 0.22  | 5.71E-04 | 0.66 | 2.69E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000179021 | <i>C3orf38</i>      | rs4384978  | C | G | 0.84 | 0.05  | 4.34E-05 | 0.14  | 8.77E-11  | 0.36  | 5.42E-04 | 0.29 | 2.69E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000072858 | <i>SIDT1</i>        | rs35350834 | A | G | 0.33 | -0.03 | 1.85E-04 | -0.10 | 3.20E-13  | 0.34  | 8.80E-04 | 0.08 | 3.69E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000114544 | <i>SLC41A3</i>      | rs58582416 | A | C | 0.34 | -0.03 | 6.26E-04 | 0.31  | 3.79E-35  | -0.10 | 9.79E-04 | 0.41 | 3.95E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000163584 | <i>RPL22L1</i>      | rs3821747  | G | A | 0.23 | -0.03 | 6.53E-04 | 0.33  | 1.58E-42  | -0.10 | 9.42E-04 | 0.17 | 3.83E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000161204 | <i>ABCF3</i>        | rs843336   | G | A | 0.49 | 0.03  | 1.68E-04 | 0.12  | 1.83E-10  | 0.26  | 1.19E-03 | 0.64 | 4.48E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000259959 | <i>RP11-121C2.2</i> | rs28460483 | A | G | 0.33 | -0.03 | 1.12E-03 | 0.86  | 9.55E-81  | -0.03 | 1.31E-03 | 0.60 | 4.76E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000170448 | <i>NFXL1</i>        | rs1371729  | G | A | 0.33 | -0.03 | 8.82E-04 | 0.88  | 8.99E-122 | -0.03 | 9.92E-04 | 0.39 | 3.97E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000170390 | <i>DCLK2</i>        | rs56150320 | A | G | 0.22 | 0.04  | 9.15E-05 | 0.71  | 4.21E-46  | 0.05  | 1.61E-04 | 0.43 | 1.12E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000164305 | <i>CASP3</i>        | rs72689254 | T | C | 0.12 | -0.05 | 1.01E-04 | -0.21 | 2.66E-17  | 0.22  | 4.11E-04 | 0.09 | 2.18E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000132842 | <i>AP3B1</i>        | rs252761   | T | G | 0.60 | -0.03 | 7.29E-05 | 0.15  | 1.80E-19  | -0.22 | 2.82E-04 | 0.21 | 1.64E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000152409 | <i>JMY</i>          | rs10052358 | A | G | 0.64 | 0.04  | 1.98E-05 | -0.12 | 1.14E-14  | -0.32 | 1.88E-04 | 0.31 | 1.22E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000145725 | <i>PPIP5K2</i>      | rs464720   | T | C | 0.28 | 0.03  | 1.05E-04 | -0.28 | 1.14E-72  | -0.12 | 1.49E-04 | 0.53 | 1.06E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000229390 | <i>MICD</i>         | rs2975031  | G | A | 0.69 | -0.05 | 4.89E-07 | 0.45  | 5.67E-23  | -0.10 | 7.40E-06 | 0.15 | 1.22E-03 |
| whole blood eQTL-GTEX | DR | ENSG00000204625 | <i>HCG9</i>         | rs3116797  | G | C | 0.72 | -0.05 | 8.66E-06 | 0.37  | 1.39E-15  | -0.13 | 1.02E-04 | 0.46 | 7.87E-03 |
| whole blood eQTL-GTEX | DR | ENSG00000238024 | <i>DDX39BP2</i>     | rs2245961  | A | C | 0.65 | -0.04 | 9.65E-06 | 0.51  | 1.10E-28  | -0.08 | 3.94E-05 | 0.10 | 3.97E-03 |
| whole blood eQTL-GTEX | DR | ENSG00000204622 | <i>HLA-J</i>        | rs9260114  | T | C | 0.66 | -0.04 | 2.05E-04 | 0.57  | 1.61E-32  | -0.07 | 3.95E-04 | 0.21 | 2.11E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000137312 | <i>FLOT1</i>        | rs13197117 | G | A | 0.34 | -0.04 | 3.34E-05 | -0.09 | 8.38E-17  | 0.41  | 2.04E-04 | 0.43 | 1.28E-02 |

|                       |    |                 |                      |             |   |   |      |       |          |       |           |       |          |      |          |
|-----------------------|----|-----------------|----------------------|-------------|---|---|------|-------|----------|-------|-----------|-------|----------|------|----------|
| whole blood eQTL-GTEX | DR | ENSG00000137331 | <i>IER3</i>          | rs13197117  | G | A | 0.34 | -0.04 | 3.34E-05 | -0.32 | 9.48E-23  | 0.12  | 1.32E-04 | 0.23 | 9.71E-03 |
| whole blood eQTL-GTEX | DR | ENSG00000204531 | <i>POU5F1</i>        | rs9380220   | T | G | 0.20 | 0.06  | 1.84E-07 | 0.37  | 1.27E-25  | 0.15  | 3.05E-06 | 0.07 | 6.85E-04 |
| whole blood eQTL-GTEX | DR | ENSG00000204528 | <i>PSORS1C3</i>      | rs9380220   | T | G | 0.20 | 0.06  | 1.84E-07 | 0.63  | 3.88E-58  | 0.09  | 7.02E-07 | 0.07 | 2.57E-04 |
| whole blood eQTL-GTEX | DR | ENSG00000271581 | <i>XXbac-BPG248L</i> | rs9264802   | T | C | 0.17 | -0.05 | 3.36E-05 | 0.95  | 4.31E-43  | -0.05 | 7.16E-05 | 0.12 | 5.98E-03 |
| whole blood eQTL-GTEX | DR | ENSG00000225851 | <i>HLA-S</i>         | rs2524096   | T | G | 0.45 | -0.04 | 8.08E-06 | 0.91  | 4.14E-90  | -0.05 | 1.32E-05 | 0.09 | 1.85E-03 |
| whole blood eQTL-GTEX | DR | ENSG00000272221 | <i>XXbac-BPG181B</i> | rs75098758  | C | T | 0.29 | -0.04 | 6.40E-05 | -0.86 | 2.40E-146 | 0.05  | 7.80E-05 | 0.46 | 6.34E-03 |
| whole blood eQTL-GTEX | DR | ENSG00000204520 | <i>MICA</i>          | rs1131896   | A | G | 0.28 | 0.04  | 8.93E-06 | 0.46  | 2.65E-42  | 0.09  | 2.41E-05 | 0.23 | 2.75E-03 |
| whole blood eQTL-GTEX | DR | ENSG00000224389 | <i>C4B</i>           | rs3132941   | C | G | 0.08 | 0.13  | 3.59E-11 | 1.17  | 1.85E-38  | 0.11  | 3.72E-09 | 0.07 | 2.51E-06 |
| whole blood eQTL-GTEX | DR | ENSG00000229391 | <i>HLA-DRB6</i>      | rs28366333  | C | G | 0.24 | 0.06  | 9.62E-08 | 0.83  | 5.72E-90  | 0.07  | 2.53E-07 | 0.23 | 1.14E-04 |
| whole blood eQTL-GTEX | DR | ENSG00000196735 | <i>HLA-DQA1</i>      | rs17843580  | G | A | 0.51 | 0.07  | 1.49E-15 | -0.36 | 2.26E-67  | -0.21 | 4.24E-13 | 1.00 | 9.53E-10 |
| whole blood eQTL-GTEX | DR | ENSG00000223534 | <i>HLA-DQB1-AS1</i>  | rs9274639   | C | T | 0.73 | 0.08  | 3.14E-13 | -0.51 | 2.15E-62  | -0.15 | 2.42E-11 | 0.09 | 2.33E-08 |
| whole blood eQTL-GTEX | DR | ENSG00000232629 | <i>HLA-DQB2</i>      | rs9274660   | G | A | 0.60 | 0.07  | 3.96E-14 | 0.97  | 0.00E+00  | 0.07  | 1.09E-13 | 0.80 | 3.69E-10 |
| whole blood eQTL-GTEX | DR | ENSG00000224796 | <i>RPL32P1</i>       | rs1126509   | A | T | 0.30 | 0.05  | 3.52E-07 | -0.23 | 2.91E-13  | -0.19 | 2.96E-05 | 0.57 | 3.15E-03 |
| whole blood eQTL-GTEX | DR | ENSG00000198937 | <i>CCDC167</i>       | rs6903910   | A | G | 0.55 | -0.03 | 1.58E-04 | 0.17  | 3.37E-17  | -0.19 | 5.65E-04 | 0.07 | 2.69E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000118520 | <i>ARG1</i>          | rs2781668   | T | C | 0.17 | 0.04  | 2.70E-04 | -0.42 | 8.15E-71  | -0.10 | 3.59E-04 | 0.31 | 1.98E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000112282 | <i>MED23</i>         | rs3843995   | G | A | 0.17 | 0.05  | 6.56E-05 | -0.17 | 1.02E-19  | -0.28 | 2.57E-04 | 0.89 | 1.54E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000026297 | <i>RNASET2</i>       | rs429083    | C | T | 0.51 | 0.03  | 1.05E-03 | -0.42 | 4.42E-105 | -0.06 | 1.20E-03 | 0.95 | 4.48E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000242435 | <i>UPK3BP1</i>       | rs62473744  | G | A | 0.81 | -0.05 | 5.55E-05 | -0.51 | 2.93E-15  | 0.09  | 3.30E-04 | 0.47 | 1.88E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000241852 | <i>C8orf58</i>       | rs755934    | G | T | 0.33 | 0.04  | 4.78E-05 | 0.22  | 1.10E-13  | 0.17  | 3.61E-04 | 0.34 | 1.98E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000158941 | <i>CCAR2</i>         | rs10099846  | T | C | 0.66 | -0.04 | 7.15E-05 | -0.12 | 3.26E-12  | 0.31  | 5.61E-04 | 0.59 | 2.69E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000147439 | <i>BIN3</i>          | rs1545837   | C | T | 0.37 | 0.04  | 1.94E-06 | 0.15  | 2.26E-17  | 0.27  | 3.32E-05 | 0.95 | 3.39E-03 |
| whole blood eQTL-GTEX | DR | ENSG00000170791 | <i>CHCHD7</i>        | rs6474051   | C | T | 0.77 | 0.04  | 8.83E-05 | 0.20  | 1.37E-12  | 0.21  | 6.02E-04 | 0.72 | 2.79E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000164938 | <i>TP53INP1</i>      | rs896853    | C | G | 0.56 | -0.03 | 3.38E-05 | -0.11 | 8.17E-17  | 0.31  | 2.06E-04 | 0.78 | 1.28E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000147883 | <i>CDKN2B</i>        | rs662463    | G | A | 0.91 | -0.06 | 1.37E-05 | 0.42  | 2.77E-25  | -0.13 | 6.05E-05 | 0.68 | 5.37E-03 |
| whole blood eQTL-GTEX | DR | ENSG00000165006 | <i>UBAP1</i>         | rs62556595  | T | C | 0.46 | -0.04 | 1.11E-06 | 0.09  | 3.83E-13  | -0.42 | 5.23E-05 | 0.34 | 4.97E-03 |
| whole blood eQTL-GTEX | DR | ENSG00000213221 | <i>DNLZ</i>          | rs117527460 | A | G | 0.04 | 0.09  | 3.92E-05 | 1.55  | 2.77E-63  | 0.06  | 6.50E-05 | 0.05 | 5.69E-03 |
| whole blood eQTL-GTEX | DR | ENSG00000148396 | <i>SEC16A</i>        | rs7020201   | C | G | 0.51 | -0.03 | 6.04E-05 | -0.35 | 3.54E-62  | 0.10  | 9.64E-05 | 0.51 | 7.65E-03 |
| whole blood eQTL-GTEX | DR | ENSG00000187134 | <i>AKRIC1</i>        | rs67362530  | A | G | 0.13 | -0.04 | 3.13E-04 | 0.95  | 1.00E-47  | -0.05 | 4.69E-04 | 0.42 | 2.45E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000151632 | <i>AKRIC2</i>        | rs12764498  | C | T | 0.13 | -0.04 | 2.57E-04 | 0.45  | 7.18E-20  | -0.10 | 6.92E-04 | 0.35 | 3.09E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000181192 | <i>DHTKD1</i>        | rs9664990   | A | G | 0.20 | 0.05  | 3.14E-06 | -0.12 | 1.86E-08  | -0.43 | 3.32E-04 | 0.18 | 1.88E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000165626 | <i>BEND7</i>         | rs11258422  | C | A | 0.37 | 0.03  | 8.18E-05 | 0.26  | 2.83E-10  | 0.13  | 8.35E-04 | 0.05 | 3.60E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000107731 | <i>UNC5B</i>         | rs1124397   | C | T | 0.33 | -0.04 | 2.85E-05 | 0.76  | 8.08E-51  | -0.05 | 5.55E-05 | 0.66 | 5.17E-03 |
| whole blood eQTL-GTEX | DR | ENSG00000075826 | <i>SEC31B</i>        | rs7900678   | C | T | 0.20 | -0.03 | 7.61E-04 | -0.55 | 2.64E-103 | 0.06  | 8.80E-04 | 0.73 | 3.69E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000166136 | <i>NDUFB8</i>        | rs4244338   | G | A | 0.19 | -0.04 | 1.09E-04 | -0.13 | 4.90E-14  | 0.29  | 5.77E-04 | 0.44 | 2.70E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000166135 | <i>HIF1AN</i>        | rs10883508  | A | G | 0.19 | -0.04 | 2.34E-04 | -0.33 | 1.06E-54  | 0.11  | 3.42E-04 | 0.81 | 1.91E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000107960 | <i>OBFC1</i>         | rs7100920   | T | C | 0.54 | 0.04  | 5.47E-07 | 0.18  | 1.47E-14  | 0.21  | 2.70E-05 | 0.05 | 2.99E-03 |
| whole blood eQTL-GTEX | DR | ENSG00000177595 | <i>PIDD</i>          | rs7121646   | A | T | 0.54 | -0.03 | 5.65E-04 | 0.18  | 2.47E-42  | -0.17 | 8.30E-04 | 0.69 | 3.60E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000121691 | <i>CAT</i>           | rs34329347  | G | A | 0.35 | -0.03 | 4.18E-04 | 0.54  | 1.06E-75  | -0.06 | 5.29E-04 | 0.51 | 2.68E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000110025 | <i>SNX15</i>         | rs502333    | A | G | 0.71 | -0.03 | 2.90E-04 | 0.26  | 2.37E-22  | -0.12 | 6.85E-04 | 0.17 | 3.08E-02 |

|                       |    |                 |                      |             |   |   |      |       |          |       |           |       |          |      |          |
|-----------------------|----|-----------------|----------------------|-------------|---|---|------|-------|----------|-------|-----------|-------|----------|------|----------|
| whole blood eQTL-GTEX | DR | ENSG00000172977 | <i>KAT5</i>          | rs12281400  | T | C | 0.36 | 0.03  | 1.51E-04 | 0.13  | 9.66E-10  | 0.25  | 1.28E-03 | 0.12 | 4.66E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000172757 | <i>CFL1</i>          | rs7947929   | A | G | 0.66 | -0.03 | 9.23E-05 | 0.07  | 3.25E-09  | -0.49 | 1.10E-03 | 0.21 | 4.21E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000172803 | <i>SNX32</i>         | rs17854357  | C | G | 0.16 | 0.06  | 5.81E-08 | 0.74  | 9.17E-28  | 0.08  | 1.18E-06 | 0.44 | 3.41E-04 |
| whole blood eQTL-GTEX | DR | ENSG00000254851 | <i>RP11-109L13.1</i> | rs35186251  | C | T | 0.26 | 0.03  | 9.03E-04 | 1.01  | 2.52E-108 | 0.03  | 1.03E-03 | 0.26 | 4.05E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000149591 | <i>TAGLN</i>         | rs664082    | G | C | 0.74 | -0.03 | 5.99E-04 | 0.81  | 2.30E-93  | -0.04 | 7.12E-04 | 0.23 | 3.14E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000078237 | <i>C12orf5</i>       | rs3217860   | G | A | 0.26 | 0.06  | 9.68E-10 | -0.20 | 2.80E-12  | -0.30 | 4.19E-06 | 0.19 | 8.08E-04 |
| whole blood eQTL-GTEX | DR | ENSG00000111642 | <i>CHD4</i>          | rs73264831  | A | C | 0.14 | 0.05  | 2.05E-06 | -0.12 | 1.81E-08  | -0.46 | 2.84E-04 | 0.30 | 1.64E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000166881 | <i>TMEM194A</i>      | rs62621200  | T | C | 0.02 | 0.09  | 4.18E-04 | 0.47  | 6.85E-20  | 0.20  | 9.97E-04 | 0.66 | 3.97E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000234608 | <i>MAPKAPK5-AS1</i>  | rs7965368   | T | C | 0.17 | -0.04 | 9.61E-05 | 0.25  | 8.82E-14  | -0.17 | 5.48E-04 | 0.34 | 2.69E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000112787 | <i>FBRSL1</i>        | rs77773608  | A | C | 0.30 | 0.04  | 7.87E-06 | 0.22  | 6.30E-23  | 0.18  | 4.70E-05 | 0.23 | 4.57E-03 |
| whole blood eQTL-GTEX | DR | ENSG00000011114 | <i>BTBD7</i>         | rs12586312  | C | T | 0.19 | -0.04 | 5.80E-05 | -0.12 | 3.55E-09  | 0.33  | 8.90E-04 | 0.17 | 3.69E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000248508 | <i>SRP14-AS1</i>     | rs8041057   | T | C | 0.70 | -0.05 | 1.33E-07 | 0.45  | 1.38E-34  | -0.10 | 1.26E-06 | 0.16 | 3.41E-04 |
| whole blood eQTL-GTEX | DR | ENSG00000173517 | <i>PEAK1</i>         | rs7119      | T | C | 0.41 | 0.04  | 1.64E-06 | 0.13  | 1.22E-09  | 0.30  | 1.68E-04 | 0.11 | 1.14E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000103811 | <i>CTSH</i>          | rs2289702   | T | C | 0.11 | -0.06 | 1.78E-04 | -0.65 | 5.71E-49  | 0.09  | 2.81E-04 | 0.88 | 1.64E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000166965 | <i>RCCD1</i>         | rs76119208  | T | G | 0.14 | 0.06  | 1.55E-06 | 0.28  | 4.33E-17  | 0.21  | 3.03E-05 | 0.29 | 3.15E-03 |
| whole blood eQTL-GTEX | DR | ENSG00000213918 | <i>DNASE1</i>        | rs9989424   | C | G | 0.31 | 0.04  | 1.52E-05 | -0.10 | 1.16E-08  | -0.39 | 5.67E-04 | 0.52 | 2.69E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000103111 | <i>MON1B</i>         | rs7196424   | G | C | 0.56 | -0.03 | 1.96E-04 | 0.14  | 2.48E-20  | -0.22 | 5.52E-04 | 0.57 | 2.69E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000074755 | <i>ZZEF1</i>         | rs12452728  | G | C | 0.17 | 0.06  | 3.01E-08 | 0.13  | 1.64E-09  | 0.51  | 4.50E-05 | 0.19 | 4.47E-03 |
| whole blood eQTL-GTEX | DR | ENSG00000198496 | <i>NBR2</i>          | rs2292595   | C | G | 0.36 | 0.04  | 2.03E-07 | -0.56 | 1.15E-60  | -0.08 | 7.24E-07 | 0.06 | 2.57E-04 |
| whole blood eQTL-GTEX | DR | ENSG00000236383 | <i>LINC00854</i>     | rs799917    | A | G | 0.36 | 0.05  | 4.58E-07 | -0.23 | 1.20E-10  | -0.20 | 7.18E-05 | 0.26 | 5.98E-03 |
| whole blood eQTL-GTEX | DR | ENSG00000175906 | <i>ARL4D</i>         | rs34053645  | C | T | 0.36 | 0.05  | 8.82E-08 | -0.24 | 6.04E-09  | -0.20 | 8.24E-05 | 0.58 | 6.62E-03 |
| whole blood eQTL-GTEX | DR | ENSG00000264070 | <i>DND1P1</i>        | rs55974014  | A | C | 0.23 | 0.04  | 1.32E-05 | 1.32  | 1.64E-122 | 0.03  | 1.84E-05 | 0.11 | 2.38E-03 |
| whole blood eQTL-GTEX | DR | ENSG00000263503 | <i>RP11-707O23.5</i> | rs55974014  | A | C | 0.23 | 0.04  | 1.32E-05 | 1.24  | 3.51E-283 | 0.03  | 1.52E-05 | 0.40 | 2.09E-03 |
| whole blood eQTL-GTEX | DR | ENSG00000214401 | <i>KANSL1-AS1</i>    | rs199456    | T | C | 0.22 | 0.04  | 5.03E-05 | 1.28  | 4.04E-291 | 0.03  | 5.59E-05 | 0.23 | 5.17E-03 |
| whole blood eQTL-GTEX | DR | ENSG00000262500 | <i>RP11-259G18.2</i> | rs17661015  | C | T | 0.24 | 0.05  | 5.94E-07 | 1.11  | 3.07E-131 | 0.04  | 1.00E-06 | 0.09 | 3.22E-04 |
| whole blood eQTL-GTEX | DR | ENSG00000262539 | <i>RP11-259G18.3</i> | rs2950015   | G | A | 0.24 | 0.05  | 3.12E-06 | 1.28  | 4.32E-302 | 0.04  | 3.72E-06 | 0.84 | 8.05E-04 |
| whole blood eQTL-GTEX | DR | ENSG00000228696 | <i>ARL17B</i>        | rs62074125  | C | A | 0.23 | -0.05 | 1.28E-06 | 0.75  | 4.23E-33  | -0.06 | 7.11E-06 | 0.11 | 1.20E-03 |
| whole blood eQTL-GTEX | DR | ENSG00000176681 | <i>LRRC37A</i>       | rs3874942   | A | G | 0.50 | -0.05 | 7.26E-07 | -0.69 | 8.40E-45  | 0.07  | 2.98E-06 | 0.07 | 6.85E-04 |
| whole blood eQTL-GTEX | DR | ENSG00000002919 | <i>SNX11</i>         | rs3744347   | A | G | 0.77 | 0.03  | 8.12E-04 | 0.29  | 1.70E-50  | 0.10  | 1.08E-03 | 0.40 | 4.16E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000136436 | <i>CALCOCO2</i>      | rs603358    | A | G | 0.16 | 0.04  | 1.23E-04 | -0.20 | 2.82E-09  | -0.22 | 1.26E-03 | 0.24 | 4.65E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000243678 | <i>NME1-NME2</i>     | rs1062386   | T | A | 0.51 | -0.03 | 1.79E-04 | -0.23 | 1.02E-52  | 0.14  | 2.74E-04 | 0.59 | 1.62E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000229590 | <i>MSX2P1</i>        | rs2052083   | T | C | 0.28 | -0.04 | 4.93E-05 | -0.27 | 1.84E-13  | 0.14  | 3.79E-04 | 0.87 | 2.04E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000175221 | <i>MED16</i>         | rs55639032  | T | C | 0.25 | -0.04 | 6.86E-05 | -0.32 | 2.22E-38  | 0.12  | 1.42E-04 | 0.82 | 1.02E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000105607 | <i>GCDH</i>          | rs8012      | G | A | 0.52 | -0.03 | 2.11E-04 | 0.30  | 4.18E-45  | -0.10 | 3.39E-04 | 0.58 | 1.91E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000130479 | <i>MAPIS</i>         | rs35976034  | T | G | 0.58 | -0.03 | 2.83E-04 | -0.11 | 7.91E-12  | 0.27  | 1.34E-03 | 0.69 | 4.84E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000129933 | <i>MAU2</i>          | rs57962361  | T | C | 0.11 | 0.08  | 7.23E-11 | -0.16 | 2.17E-15  | -0.50 | 4.79E-07 | 0.34 | 1.90E-04 |
| whole blood eQTL-GTEX | DR | ENSG00000256229 | <i>ZNF486</i>        | rs142492786 | A | G | 0.09 | 0.06  | 2.91E-05 | -0.33 | 1.92E-14  | -0.19 | 2.44E-04 | 0.16 | 1.48E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000104936 | <i>DMPK</i>          | rs62111759  | T | A | 0.47 | -0.04 | 5.53E-08 | 0.19  | 1.29E-13  | -0.24 | 1.18E-05 | 0.28 | 1.73E-03 |
| whole blood eQTL-GTEX | DR | ENSG00000166704 | <i>ZNF606</i>        | rs10415951  | C | T | 0.38 | -0.04 | 1.30E-05 | 0.12  | 4.00E-08  | -0.31 | 6.39E-04 | 0.49 | 2.93E-02 |

|                       |    |                 |                      |            |   |   |      |       |          |       |          |       |          |      |          |
|-----------------------|----|-----------------|----------------------|------------|---|---|------|-------|----------|-------|----------|-------|----------|------|----------|
| whole blood eQTL-GTEX | DR | ENSG00000176593 | <i>CTD-2368P22.1</i> | rs1014767  | G | A | 0.61 | 0.04  | 7.42E-06 | -0.37 | 2.45E-31 | -0.09 | 2.89E-05 | 0.45 | 3.14E-03 |
| whole blood eQTL-GTEX | DR | ENSG00000101421 | <i>CHMP4B</i>        | rs2626562  | A | G | 0.52 | 0.03  | 1.10E-04 | -0.22 | 1.88E-40 | -0.13 | 2.04E-04 | 0.26 | 1.28E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000100311 | <i>PDGFB</i>         | rs59744664 | G | A | 0.39 | -0.03 | 2.60E-04 | -0.29 | 3.33E-14 | 0.10  | 1.00E-03 | 0.66 | 3.97E-02 |
| whole blood eQTL-GTEX | DR | ENSG00000198355 | <i>PIM3</i>          | rs28645887 | T | C | 0.49 | -0.03 | 4.80E-04 | -0.26 | 6.00E-25 | 0.12  | 9.41E-04 | 0.80 | 3.83E-02 |

*P*, *P*-values from the corresponding analyses;  
*P* HEIDI, *P*-value from the HEIDI test;  
*P* FDR, *P*-value adjusted using the false discovery rate (FDR) method.

Table S6. MR estimates for the associations between DR, candidate mediators, and AD.

| Exposure              | Outcome               | Method | N SNPs | OR    | 95%CI (lower) | 95%CI (upper) | P-value |
|-----------------------|-----------------------|--------|--------|-------|---------------|---------------|---------|
| DR                    | Adiponectin           | IVW    | 45     | 0.970 | 0.942         | 0.999         | 0.043   |
| DR                    | ApolipoproteinB       | IVW    | 91     | 0.948 | 0.893         | 1.008         | 0.088   |
| DR                    | BMI                   | IVW    | 98     | 1.034 | 1.001         | 1.068         | 0.044   |
| DR                    | Fasting blood glucose | IVW    | 44     | 1.089 | 1.052         | 1.127         | <0.001  |
| DR                    | Glutamate             | IVW    | 44     | 1.017 | 1.001         | 1.033         | 0.038   |
| DR                    | HbA1c                 | IVW    | 97     | 1.249 | 1.212         | 1.287         | <0.001  |
| DR                    | HDL                   | IVW    | 91     | 0.939 | 0.909         | 0.970         | <0.001  |
| DR                    | LDL                   | IVW    | 91     | 0.937 | 0.895         | 0.982         | 0.006   |
| DR                    | MUFA                  | IVW    | 111    | 1.016 | 0.976         | 1.057         | 0.438   |
| DR                    | Omega-3               | IVW    | 111    | 0.988 | 0.955         | 1.022         | 0.480   |
| DR                    | Omega-6               | IVW    | 111    | 0.967 | 0.936         | 1.000         | 0.049   |
| DR                    | Proinsulin            | IVW    | 44     | 1.044 | 0.973         | 1.121         | 0.225   |
| DR                    | PUFA                  | IVW    | 111    | 0.969 | 0.935         | 1.004         | 0.085   |
| DR                    | SFA                   | IVW    | 111    | 1.000 | 0.963         | 1.039         | 0.987   |
| DR                    | Triglycerides         | IVW    | 91     | 1.041 | 0.994         | 1.090         | 0.092   |
| Adiponectin           | AD                    | IVW    | 11     | 0.993 | 0.955         | 1.033         | 0.729   |
| ApolipoproteinB       | AD                    | IVW    | 191    | 1.049 | 1.027         | 1.072         | <0.001  |
| BMI                   | AD                    | IVW    | 436    | 1.008 | 0.971         | 1.045         | 0.679   |
| Fasting blood glucose | AD                    | IVW    | 14     | 1.041 | 0.998         | 1.087         | 0.063   |
| Glutamate             | AD                    | IVW    | 7      | 0.992 | 0.964         | 1.020         | 0.565   |
| HbA1c                 | AD                    | IVW    | 326    | 1.004 | 0.990         | 1.017         | 0.597   |
| HDL                   | AD                    | IVW    | 339    | 0.959 | 0.925         | 0.994         | 0.023   |
| LDL                   | AD                    | IVW    | 176    | 1.049 | 1.008         | 1.093         | 0.019   |
| MUFA                  | AD                    | IVW    | 62     | 0.996 | 0.959         | 1.034         | 0.833   |
| Omega-3               | AD                    | IVW    | 48     | 0.996 | 0.963         | 1.030         | 0.810   |
| Omega-6               | AD                    | IVW    | 60     | 1.035 | 0.969         | 1.106         | 0.307   |
| Proinsulin            | AD                    | IVW    | 8      | 0.976 | 0.948         | 1.005         | 0.107   |
| PUFA                  | AD                    | IVW    | 65     | 1.027 | 0.970         | 1.087         | 0.360   |
| SFA                   | AD                    | IVW    | 54     | 0.996 | 0.953         | 1.042         | 0.875   |
| Triglycerides         | AD                    | IVW    | 299    | 1.063 | 1.023         | 1.105         | 0.002   |

**Table S7. Mediating role of each mediator in the causal associations between DR and AD.**

| Exposure | Outcome | Mediator              | $\beta$ mediation | SE       | Z      | P- value |
|----------|---------|-----------------------|-------------------|----------|--------|----------|
| DR       | AD      | Adiponectin           | 2.10E-04          | 6.14E-04 | 0.342  | 0.732    |
| DR       | AD      | ApolipoproteinB       | -2.53E-03         | 1.59E-03 | -1.591 | 0.112    |
| DR       | AD      | BMI                   | 2.58E-04          | 6.36E-04 | 0.405  | 0.685    |
| DR       | AD      | Fasting blood glucose | 3.46E-03          | 1.99E-03 | 1.736  | 0.083    |
| DR       | AD      | Glutamate             | -1.70E-04         | 2.03E-04 | -0.839 | 0.401    |
| DR       | AD      | HbA1c                 | 8.01E-04          | 1.52E-03 | 0.528  | 0.598    |
| DR       | AD      | HDL                   | 2.62E-03          | 1.34E-03 | 1.955  | 0.051    |
| DR       | AD      | LDL                   | -3.12E-03         | 1.75E-03 | -1.783 | 0.075    |
| DR       | AD      | MUFA                  | -6.32E-05         | 3.10E-04 | -0.204 | 0.838    |
| DR       | AD      | Omega-3               | 4.95E-05          | 2.18E-04 | 0.228  | 0.820    |
| DR       | AD      | Omega-6               | -1.15E-03         | 1.27E-03 | -0.906 | 0.365    |
| DR       | AD      | Proinsulin            | -1.05E-03         | 1.08E-03 | -0.969 | 0.332    |
| DR       | AD      | PUFA                  | -8.39E-04         | 1.04E-03 | -0.808 | 0.419    |
| DR       | AD      | SFA                   | -1.15E-06         | 6.88E-05 | -0.017 | 0.987    |
| DR       | AD      | Triglycerides         | 2.44E-03          | 1.64E-03 | 1.484  | 0.138    |

Table S8. Baseline Cox regression analysis.

| Covariate        | Level                      | Hazard ratio | 95%CI (lower) | 95%CI (upper) | P- value |
|------------------|----------------------------|--------------|---------------|---------------|----------|
| DR               | DR (baseline)              | 1.884        | 1.497         | 2.371         | <0.001   |
| Age              | Age (per year)             | 1.233        | 1.223         | 1.244         | <0.001   |
| Sex              | Sex: Female vs Male        | 0.924        | 0.849         | 1.006         | 0.068    |
| BMI              | BMI (kg/m <sup>2</sup> )   | 0.983        | 0.974         | 0.993         | 0.001    |
| BP               | SBP (mmHg)                 | 1.003        | 1.001         | 1.006         | 0.007    |
|                  | DBP (mmHg)                 | 0.991        | 0.987         | 0.996         | <0.001   |
| Smoking          | Smoking: Yes vs No         | 1.036        | 0.958         | 1.120         | 0.377    |
| Drinking         | Drinking: Past vs Never    | 1.222        | 0.989         | 1.510         | 0.064    |
|                  | Drinking: Current vs Never | 0.677        | 0.580         | 0.789         | <0.001   |
|                  | Race: Black vs White       | 1.547        | 1.100         | 2.176         | 0.012    |
| Race             | Race: Other vs White       | 0.858        | 0.574         | 1.283         | 0.457    |
|                  | Race: Asian vs White       | 0.570        | 0.397         | 0.816         | 0.002    |
| HbA1c (mmol/mol) |                            | 1.010        | 1.007         | 1.013         | <0.001   |
| LDL (mmol/L)     |                            | 1.006        | 0.964         | 1.050         | 0.776    |
| HDL (mmol/L)     |                            | 0.962        | 0.858         | 1.077         | 0.499    |

**Table S9. Standardized mean differences of baseline covariates before and after inverse probability of treatment weighting in the diabetes-restricted cohort.**

| Covariate        | Level                      | Type        | Unweighted SMD | Weighted SMD | Absolute Weighted SMD |
|------------------|----------------------------|-------------|----------------|--------------|-----------------------|
| Age              | Age (per year)             | Continuous  | 0.084          | 0.045        | 0.045                 |
| Sex              | Sex: Female vs Male        | Categorical | -0.001         | -0.002       | 0.002                 |
| BMI              | BMI (kg/m <sup>2</sup> )   | Continuous  | -0.005         | 0.015        | 0.015                 |
| BP               | SBP (mmHg)                 | Continuous  | 0.142          | 0.007        | 0.007                 |
|                  | DBP (mmHg)                 | Continuous  | -0.191         | -0.008       | 0.008                 |
| Smoking          | Smoking: Yes vs No         | Categorical | -0.008         | 0.007        | 0.007                 |
| Drinking         | Drinking: Past vs Never    | Categorical | 0.046          | -0.003       | 0.003                 |
|                  | Drinking: Current vs Never | Categorical | -0.080         | -0.001       | 0.001                 |
|                  | Race: Black vs White       | Categorical | 0.060          | 0.006        | 0.006                 |
| Race             | Race: Other vs White       | Categorical | 0.037          | 0.005        | 0.005                 |
|                  | Race: Asian vs White       | Categorical | 0.045          | -0.018       | 0.018                 |
| HbA1c (mmol/mol) |                            | Continuous  | 0.565          | 0.056        | 0.056                 |
| LDL (mmol/L)     |                            | Continuous  | -0.124         | -0.018       | 0.018                 |
| HDL (mmol/L)     |                            | Continuous  | 0.056          | -0.007       | 0.007                 |
| DM duration      |                            | Continuous  | 0.645          | 0.073        | 0.073                 |

Table S10. Sensitivity analysis.

| Model                             | Covariate             | Hazard ratio | 95%CI (lower) | 95%CI (upper) | P- value |
|-----------------------------------|-----------------------|--------------|---------------|---------------|----------|
| Adjustment for UACR               | DR (time-varying)     | 1.549        | 1.132         | 2.120         | 0.006    |
| Landmark analysis                 | DR (landmark-defined) | 2.178        | 1.445         | 3.281         | <0.001   |
| All-cause dementia                | DR (baseline)         | 1.798        | 1.484         | 2.179         | <0.001   |
| Single imputation                 | DR (baseline)         | 1.825        | 1.498         | 2.223         | <0.001   |
| Adjustment for DM and DM duration | DR (time-varying)     | 1.218        | 0.871         | 1.704         | 0.248    |

Table S11. Landmark diagnostics.

| Landmark time | Number at risk | Number of events | Incidence (%) | Log-rank <i>P</i> -value | HR (basic) | 95% CI (basic) | <i>P</i> -value (basic) | HR (full) | 95% CI (full) | <i>P</i> -value (full) | <i>P</i> -value (global PH test) |
|---------------|----------------|------------------|---------------|--------------------------|------------|----------------|-------------------------|-----------|---------------|------------------------|----------------------------------|
| 0.5           | 308052         | 2556             | 0.83          | <0.001                   | 2.51       | 2.01–3.14      | <0.001                  | 2.13      | 1.42–3.21     | <0.001                 | 0.13                             |
| 1             | 307906         | 2553             | 0.83          | <0.001                   | 2.52       | 2.01–3.15      | <0.001                  | 2.15      | 1.42–3.23     | <0.001                 | 0.14                             |
| 2             | 307294         | 2542             | 0.83          | <0.001                   | 2.50       | 2.00–3.13      | <0.001                  | 2.18      | 1.45–3.28     | <0.001                 | 0.17                             |
| 3             | 306375         | 2524             | 0.82          | <0.001                   | 2.52       | 2.01–3.15      | <0.001                  | 2.18      | 1.44–3.28     | <0.001                 | 0.25                             |
| 5             | 303992         | 2409             | 0.79          | <0.001                   | 2.42       | 1.91–3.05      | <0.001                  | 2.02      | 1.31–3.12     | 0.001                  | 0.47                             |

Table S12. Lag exclusion analysis.

| Lag        | Model                | Hazard ratio | 95%CI (lower) | 95%CI (upper) | P- value |
|------------|----------------------|--------------|---------------|---------------|----------|
| Lag 1 year | Baseline (basic)     | 2.301        | 1.890         | 2.800         | <0.001   |
| Lag 1 year | Baseline (full)      | 1.551        | 1.129         | 2.130         | 0.007    |
| Lag 1 year | Time-varying (basic) | 2.303        | 1.886         | 2.811         | <0.001   |
| Lag 1 year | Time-varying (full)  | 1.551        | 1.133         | 2.123         | 0.006    |
| Lag 2 year | Baseline (basic)     | 2.293        | 1.882         | 2.794         | <0.001   |
| Lag 2 year | Baseline (full)      | 1.573        | 1.145         | 2.161         | 0.005    |
| Lag 2 year | Time-varying (basic) | 2.295        | 1.878         | 2.805         | <0.001   |
| Lag 2 year | Time-varying (full)  | 1.573        | 1.149         | 2.153         | 0.005    |