**Additional file 5. Mendelian randomization results after removing SNPs significantly (P < 5×10-8) associated with Alzheimer’s disease.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Metabolites | SNPs | OR | LCI | UCI | P-value |
| ApoB | 25 | 1.21 | 0.89 | 1.65 | 0.22 |
| IDL-C | 36 | 1.11 | 0.95 | 1.31 | 0.18 |
| IDL-FC | 38 | 1.07 | 0.91 | 1.25 | 0.41 |
| IDL-L | 40 | 1.04 | 0.89 | 1.22 | 0.62 |
| IDL-P | 37 | 1.04 | 0.88 | 1.23 | 0.67 |
| IDL-PL | 40 | 1.04 | 0.89 | 1.23 | 0.59 |
| LDL-C | 46 | 1.12 | 0.99 | 1.25 | 0.07 |
| L-LDL-C | 45 | 1.08 | 0.95 | 1.24 | 0.24 |
| L-LDL-CE | 42 | 1.07 | 0.93 | 1.24 | 0.33 |
| L-LDL-FC | 42 | 1.10 | 0.96 | 1.27 | 0.16 |
| L-LDL-L | 43 | 1.07 | 0.94 | 1.23 | 0.31 |
| L-LDL-P | 44 | 1.07 | 0.93 | 1.23 | 0.33 |
| L-LDL-PL | 43 | 1.10 | 0.96 | 1.27 | 0.17 |
| M-LDL-C | 41 | 1.08 | 0.95 | 1.23 | 0.23 |
| M-LDL-CE | 42 | 1.06 | 0.93 | 1.20 | 0.36 |
| M-LDL-L | 41 | 1.07 | 0.95 | 1.22 | 0.27 |
| M-LDL-P | 41 | 1.05 | 0.93 | 1.19 | 0.40 |
| M-LDL-PL | 30 | 1.06 | 0.91 | 1.25 | 0.45 |
| S-LDL-C | 32 | 1.12 | 0.94 | 1.34 | 0.21 |
| S-LDL-L | 34 | 1.08 | 0.93 | 1.25 | 0.33 |
| S-LDL-P | 30 | 1.06 | 0.89 | 1.25 | 0.53 |
| XS-VLDL-PL | 33 | 1.19 | 0.89 | 1.59 | 0.25 |
| Serum-C | 32 | 1.04 | 0.85 | 1.26 | 0.72 |
| Esterified cholesterol | 21 | 0.95 | 0.86 | 1.05 | 0.31 |

SNPs: single nucleotide polymorphisms; OR: odds ratio; LCI: lower 95% confidence interval; UCI: upper 95% confidence interval.