Table S1 Identified instrumental variables for coronary artery disease.

| SNP | Effect allele | Other allele | Eaf | Beta | *p*-value |
|---|---|---|---|---|---|
| rs9970807 | T | C | 0.084903 | -0.12575 | 5.00E-14 |
| rs7528419 | G | A | 0.21418 | -0.11453 | 1.97E-23 |
| rs6689306 | G | A | 0.552455 | -0.05601 | 2.60E-09 |
| rs67180937 | G | T | 0.663052 | 0.078807 | 1.01E-12 |
| rs7568458 | A | T | 0.448518 | 0.059618 | 3.62E-10 |
| rs515135 | C | T | 0.791985 | 0.067499 | 3.09E-08 |
| rs17678683 | G | T | 0.087681 | 0.098786 | 3.00E-09 |
| rs115654617 | A | C | 0.106962 | 0.137846 | 3.12E-18 |
| rs16986953 | A | G | 0.104706 | 0.08516 | 1.45E-08 |
| rs1199338 | C | A | 0.161866 | 0.073596 | 3.90E-09 |
| rs4593108 | G | C | 0.204651 | -0.07083 | 8.82E-10 |
| rs17087335 | T | G | 0.214637 | 0.060764 | 4.59E-08 |
| rs10080815 | G | T | 0.027558 | 0.246627 | 1.33E-15 |
| rs55730499 | T | C | 0.056243 | 0.316641 | 5.39E-39 |
| rs56336142 | C | T | 0.192738 | -0.06681 | 1.85E-08 |
| rs12202017 | G | A | 0.300047 | -0.06681 | 1.98E-11 |
| rs9349379 | G | A | 0.431606 | 0.131836 | 1.81E-42 |
| rs11556924 | T | C | 0.313325 | -0.07257 | 5.34E-11 |
| rs2107595 | A | G | 0.20047 | 0.073415 | 8.05E-11 |
| rs3918226 | T | C | 0.064515 | 0.133315 | 1.69E-09 |
| rs2519093 | T | C | 0.190872 | 0.079704 | 1.19E-11 |
| rs2891168 | G | A | 0.488668 | 0.193401 | 2.29E-98 |
| rs1870634 | G | T | 0.637485 | 0.075878 | 5.55E-15 |
| rs11191416 | G | T | 0.12747 | -0.07925 | 4.65E-09 |
| rs2487928 | A | G | 0.418221 | 0.062633 | 4.41E-11 |
| rs1412444 | T | C | 0.369131 | 0.066812 | 5.15E-12 |
| rs10840293 | A | G | 0.549821 | 0.054714 | 1.28E-08 |
| rs2128739 | C | A | 0.676464 | -0.06557 | 7.05E-11 |
| rs2681472 | G | A | 0.201306 | 0.074114 | 6.17E-11 |
| rs11065979 | T | C | 0.365499 | 0.068556 | 1.93E-10 |
| rs11838776 | A | G | 0.263277 | 0.068566 | 1.83E-10 |
| rs10139550 | G | C | 0.423033 | 0.05538 | 1.38E-08 |
| rs8042271 | A | G | 0.097718 | -0.09671 | 3.68E-08 |
| rs4468572 | C | T | 0.585831 | 0.077234 | 4.44E-16 |
| rs56062135 | T | C | 0.205729 | -0.06974 | 4.52E-09 |
| rs7212798 | C | T | 0.146516 | 0.079961 | 1.88E-08 |
| rs663129 | A | G | 0.256835 | 0.058163 | 3.20E-08 |
| rs56289821 | A | G | 0.100378 | -0.13361 | 4.44E-15 |
| rs4420638 | G | A | 0.166036 | 0.091906 | 7.07E-11 |
| rs28451064 | A | G | 0.121186 | 0.127571 | 1.33E-15 |
| rs180803 | T | G | 0.029268 | -0.18092 | 1.64E-10 |

Table S2 Identified instrumental variables for atrial fibrillation.

| SNP | Effect allele | Other allele | Eaf | Beta | *p*-value |
|---|---|---|---|---|---|
| rs11264280 | T | C | 0.333 | 0.1347 | 3.07E-79 |
| rs4073778 | A | C | 0.5639 | 0.0486 | 4.96E-13 |
| rs284277 | A | C | 0.6174 | -0.0422 | 1.25E-09 |
| rs577676 | T | C | 0.4383 | -0.0923 | 1.62E-43 |
| rs72694603 | T | C | 0.3147 | -0.0553 | 2.26E-14 |
| rs79187193 | A | G | 0.0569 | -0.1162 | 3.15E-14 |
| rs6665642 | T | C | 0.1176 | -0.062 | 3.06E-08 |
| rs72700114 | C | G | 0.0756 | 0.2021 | 3.29E-54 |
| rs10753933 | G | T | 0.5518 | -0.0609 | 9.84E-20 |
| rs6689306 | G | A | 0.5872 | -0.046 | 1.36E-11 |
| rs146518726 | A | G | 0.0328 | 0.1605 | 8.27E-15 |
| rs74832855 | G | A | 0.0369 | 0.1216 | 1.43E-11 |
| rs7529220 | C | T | 0.8469 | 0.0621 | 1.98E-10 |
| rs2885697 | T | G | 0.6482 | -0.0439 | 2.88E-10 |
| rs6546620 | C | T | 0.7999 | 0.0602 | 3.19E-12 |
| rs28387148 | T | C | 0.1051 | 0.0741 | 6.25E-11 |
| rs6747542 | C | T | 0.4642 | -0.0554 | 1.10E-16 |
| rs7574892 | A | G | 0.4847 | 0.0552 | 1.98E-16 |
| rs67969609 | G | C | 0.071 | 0.0711 | 1.71E-08 |
| rs35544454 | T | A | 0.1918 | -0.0589 | 1.10E-11 |
| rs72926475 | A | G | 0.1228 | -0.0683 | 2.37E-11 |
| rs2288327 | G | A | 0.1564 | 0.0919 | 7.26E-25 |
| rs56326533 | C | T | 0.3919 | 0.0685 | 6.28E-24 |
| rs2540949 | T | A | 0.3847 | -0.0659 | 2.95E-22 |
| rs4642101 | G | T | 0.6397 | 0.0706 | 2.95E-24 |
| rs6771054 | C | T | 0.4035 | -0.0457 | 2.42E-11 |
| rs7612445 | T | G | 0.1879 | 0.0493 | 4.81E-09 |
| rs62254082 | C | T | 0.3865 | 0.0404 | 6.34E-09 |
| rs1278493 | A | G | 0.5645 | -0.0389 | 8.77E-09 |
| rs34080181 | A | G | 0.379 | -0.0446 | 1.28E-10 |
| rs73041705 | C | T | 0.2985 | -0.0443 | 1.55E-09 |
| rs60902112 | T | C | 0.2262 | 0.0445 | 1.72E-08 |
| rs6790396 | G | C | 0.5959 | 0.0627 | 2.40E-20 |
| rs10804493 | A | G | 0.6505 | 0.0558 | 1.63E-15 |
| rs6838973 | T | C | 0.4406 | -0.1514 | 1.03E-111 |
| rs74500426 | T | G | 0.0764 | -0.0921 | 4.29E-13 |
| rs1906615 | T | G | 0.1991 | 0.3658 | 1.00E-200 |
| rs2739197 | G | C | 0.2458 | 0.116 | 3.20E-41 |
| rs1458038 | T | C | 0.3087 | 0.0434 | 1.74E-09 |
| rs10213171 | G | C | 0.0609 | 0.091 | 1.32E-11 |

| | | | | | |
|---|---|---|---|---|---|
| rs10520260 | G | A | 0.3214 | -0.0457 | 3.36E-10 |
| rs17171711 | T | C | 0.1775 | 0.1086 | 1.95E-35 |
| rs6580277 | G | A | 0.2369 | 0.067 | 1.64E-17 |
| rs337705 | G | T | 0.3749 | 0.0564 | 1.63E-16 |
| rs1838747 | G | A | 0.4954 | 0.0391 | 4.13E-09 |
| rs62377206 | A | G | 0.0554 | 0.0846 | 8.21E-09 |
| rs6882776 | A | G | 0.2835 | -0.0711 | 9.64E-22 |
| rs6596717 | A | C | 0.6049 | -0.0404 | 3.00E-09 |
| rs10520002 | A | G | 0.0988 | 0.0626 | 2.85E-08 |
| rs72966339 | T | C | 0.3679 | -0.0616 | 7.42E-19 |
| rs2031522 | G | A | 0.3764 | -0.0436 | 1.47E-10 |
| rs34969716 | A | G | 0.3051 | 0.0702 | 1.60E-19 |
| rs3176326 | A | G | 0.1982 | -0.0626 | 1.42E-13 |
| rs73366713 | A | G | 0.1396 | -0.1035 | 1.53E-25 |
| rs4946333 | G | A | 0.4897 | 0.0639 | 5.47E-22 |
| rs117984853 | T | G | 0.1013 | 0.1228 | 1.34E-24 |
| rs55734480 | A | G | 0.2494 | 0.0548 | 2.20E-12 |
| rs55985730 | G | T | 0.06 | 0.0867 | 5.24E-09 |
| rs74910854 | G | A | 0.0693 | 0.09 | 4.31E-08 |
| rs56201652 | A | G | 0.267 | -0.0531 | 1.74E-12 |
| rs7789146 | A | G | 0.1787 | -0.0584 | 2.12E-11 |
| rs6462079 | A | G | 0.7208 | 0.0466 | 8.79E-10 |
| rs11773845 | A | C | 0.5856 | 0.1054 | 2.39E-55 |
| rs62521286 | G | A | 0.0663 | 0.1202 | 4.50E-19 |
| rs3943207 | T | G | 0.1167 | -0.0638 | 6.92E-10 |
| rs6994744 | C | A | 0.4954 | 0.0405 | 1.09E-09 |
| rs35963991 | T | G | 0.1494 | 0.0525 | 2.80E-08 |
| rs7508 | A | G | 0.7109 | 0.0711 | 1.69E-21 |
| rs10821415 | A | C | 0.4132 | 0.0821 | 2.92E-34 |
| rs2274115 | G | A | 0.7003 | 0.0487 | 1.69E-10 |
| rs11191116 | T | C | 0.348 | -0.041 | 4.42E-09 |
| rs7915134 | T | C | 0.1439 | -0.1168 | 1.42E-34 |
| rs12245149 | A | C | 0.4739 | -0.047 | 1.66E-12 |
| rs10458662 | G | T | 0.1722 | 0.0544 | 6.93E-10 |
| rs11598047 | G | A | 0.1621 | 0.1537 | 8.95E-66 |
| rs34936990 | A | G | 0.1207 | 0.1294 | 2.95E-37 |
| rs4757877 | G | A | 0.7552 | -0.0723 | 2.93E-20 |
| rs4935786 | A | T | 0.7327 | -0.0463 | 4.85E-09 |
| rs76097649 | A | G | 0.0933 | 0.1151 | 1.26E-20 |
| rs10842383 | T | C | 0.1478 | -0.0988 | 2.88E-25 |
| rs71454237 | A | G | 0.209 | -0.062 | 1.78E-13 |
| rs12426679 | T | C | 0.5278 | -0.0391 | 4.95E-09 |
| rs6560886 | C | T | 0.7884 | 0.051 | 1.49E-08 |
| rs883079 | T | C | 0.7074 | 0.0981 | 2.84E-40 |

| | | | | | |
|---|---|---|---|---|---|
| rs17380837 | T | C | 0.307 | -0.0501 | 4.80E-12 |
| rs2860482 | C | A | 0.726 | -0.054 | 1.21E-12 |
| rs775498 | G | A | 0.2798 | 0.0423 | 1.05E-08 |
| rs10773657 | A | C | 0.862 | -0.0575 | 2.54E-08 |
| rs35569628 | C | T | 0.223 | -0.0452 | 1.38E-08 |
| rs9506925 | T | C | 0.2669 | 0.0449 | 2.72E-09 |
| rs74884082 | T | C | 0.2495 | -0.0493 | 3.48E-10 |
| rs4587869 | C | G | 0.2849 | 0.0716 | 1.19E-20 |
| rs2738413 | G | A | 0.5049 | -0.0778 | 2.55E-31 |
| rs10141892 | C | T | 0.5833 | -0.0452 | 2.95E-11 |
| rs28631169 | T | C | 0.1982 | 0.0522 | 5.35E-10 |
| rs7172038 | G | T | 0.1597 | 0.112 | 4.78E-36 |
| rs2759301 | A | G | 0.4542 | 0.039 | 5.04E-09 |
| rs4965430 | G | C | 0.6136 | -0.0441 | 1.26E-10 |
| rs2359171 | A | T | 0.176 | 0.1746 | 4.65E-91 |
| rs77316573 | T | C | 0.1991 | 0.0529 | 3.26E-09 |
| rs140185678 | A | G | 0.0351 | 0.1659 | 2.43E-14 |
| rs1563304 | T | C | 0.178 | 0.0644 | 2.56E-12 |
| rs4252627 | T | C | 0.6679 | -0.0415 | 5.63E-09 |
| rs72811294 | C | G | 0.1131 | -0.072 | 9.67E-12 |
| rs7225165 | A | G | 0.1133 | -0.0655 | 3.20E-09 |
| rs7224711 | T | C | 0.5222 | -0.0365 | 3.72E-08 |
| rs9953366 | C | T | 0.6631 | 0.049 | 1.82E-11 |
| rs8088085 | C | A | 0.4646 | -0.0365 | 4.79E-08 |
| rs2834618 | G | T | 0.1056 | -0.0944 | 3.41E-17 |
| rs464901 | C | T | 0.3353 | -0.0508 | 1.53E-12 |
| rs133885 | A | G | 0.4377 | 0.0405 | 2.22E-09 |