

Supplementary Table S1. Baseline characteristics of cheese intake, cardiovascular diseases, and cardiovascular biomarkers

| Trait | Year | Author | Population | Sample Size | n case | n control | n SNP |
|---------------------------|------|--------------|-------------------------------|-------------|--------|-----------|------------|
| Cheese intake | 2018 | Ben Elsworth | European | 451,486 | - | - | 9,851,867 |
| Cardiovascular diseases | | | | | | | |
| Coronary heart disease | 2015 | Nikpay | European (~74%), Asian (~26%) | 184,305 | 60,801 | 123,504 | 9,455,779 |
| Hypertension | 2021 | - | European | 218,792 | 42,857 | 175,935 | 16,380,466 |
| Atrial fibrillation | 2021 | - | European | 127,442 | 10,516 | 116,926 | 16,379,586 |
| Heart failure | 2020 | Shah S | European | 977,323 | 47,309 | 930,014 | 7,773,021 |
| Type 2 diabetes | 2012 | Morris | European | 149,821 | 34,840 | 114,981 | 127,904 |
| Ischemic stroke | 2018 | Malik R | European | 440,328 | 34,217 | 406,111 | 7,537,579 |
| Transient ischemic attack | 2021 | - | European | 214,634 | 8,835 | 205,799 | 16,380,437 |
| Pulmonary embolism | 2021 | - | European | 218,792 | 4,185 | 214,607 | 16,380,466 |
| Peripheral artery disease | 2021 | - | European | 218,792 | 1,037 | 217,755 | 16,380,466 |
| Cardiac death | 2021 | - | European | 218,792 | 7,563 | 211,229 | 16,380,466 |
| Cardiovascular biomarkers | | | | | | | |
| Systolic blood pressure | 2018 | Evangelou, E | European | 757,601 | - | - | 7,088,083 |
| Diastolic blood pressure | 2018 | Evangelou, E | European | 757,601 | - | - | 7,160,619 |
| Body mass index | 2015 | Locke AE | European | 339,224 | - | - | 2,555,511 |
| Waist circumference | 2015 | Shungin D | European | 232,101 | - | - | 2,565,408 |
| C-Reactive protein | 2018 | Ligthart, S | European | 204,402 | - | - | 2,414,379 |
| Interleukin 6 | 2018 | Folkersen L | European | 3,394 | - | - | 5,270,646 |
| Adiponectin | 2012 | Dastani Z | European | 39,883 | - | - | 2,675,209 |
| Total cholesterol | 2013 | Willer CJ | European (83.5%) | 187,365 | - | - | 2,446,982 |
| Triglycerides | 2013 | Willer CJ | European 83.5%) | 177,861 | - | - | 2,439,433 |
| HDL | 2013 | Willer CJ | European 83.5%) | 187,167 | - | - | 2,447,442 |
| LDL | 2013 | Willer CJ | European 83.5%) | 173,082 | - | - | 2,437,752 |
| Fasting glucose | 2012 | Manning AK | European | 58,074 | - | - | 2,625,495 |

HDL: high-density lipoprotein; LDL: low-density lipoprotein; SNP: single nucleotide polymorphism

Supplementary Table S2. Single nucleotide polymorphisms used as instrumental variables in the Mendelian randomization analyses of cheese intake

| SNP | Chr | EA | NEA | Beta | SE | Nearby gene | F |
|------------|-----|----|-----|--------|-------|--------------|-----|
| rs78876700 | 1 | A | G | 0.018 | 0.003 | LOC107985376 | 30 |
| rs531358 | 1 | T | C | 0.013 | 0.002 | CCDC18 | 32 |
| rs2802530 | 1 | A | G | 0.019 | 0.003 | - | 30 |
| rs6685323 | 1 | T | C | -0.013 | 0.002 | AQP10 | 30 |
| rs2339928 | 2 | A | G | 0.015 | 0.002 | ATAD2B | 37 |
| rs12475594 | 2 | G | A | 0.016 | 0.003 | FANCL | 30 |
| rs504675 | 2 | T | C | 0.027 | 0.002 | LINC01833 | 137 |
| rs72970243 | 2 | A | G | 0.022 | 0.003 | - | 43 |
| rs1514755 | 2 | G | A | 0.016 | 0.003 | - | 39 |
| rs79184944 | 3 | A | T | 0.020 | 0.003 | - | 36 |
| rs4296548 | 3 | G | T | 0.013 | 0.002 | TRANK1 | 32 |
| rs62245792 | 3 | A | T | -0.018 | 0.003 | TAFA1 | 32 |
| rs77742462 | 3 | G | A | -0.047 | 0.008 | LINC00636 | 33 |
| rs2352974 | 3 | T | C | -0.014 | 0.002 | TRAIP | 42 |
| rs6774906 | 3 | C | A | 0.032 | 0.006 | XXYL1 | 31 |
| rs4681981 | 3 | A | C | -0.012 | 0.002 | TASOR | 31 |
| rs4860341 | 4 | C | T | 0.024 | 0.004 | - | 31 |
| rs73096946 | 4 | C | T | -0.021 | 0.003 | - | 45 |
| rs13107325 | 4 | T | C | -0.029 | 0.004 | SLC39A8 | 47 |
| rs10938397 | 4 | G | A | -0.013 | 0.002 | - | 32 |
| rs4692708 | 4 | C | A | 0.015 | 0.003 | LOC105377529 | 32 |

| | | | | | | | |
|-------------|----|---|---|--------|-------|--------------------------|----|
| rs26579 | 5 | C | G | -0.013 | 0.002 | LINC00461/MEF2C-AS2 | 31 |
| rs6873324 | 5 | C | A | -0.012 | 0.002 | GALNT10/LOC10798646 5 | 30 |
| rs9504123 | 6 | C | A | 0.014 | 0.003 | LOC105374894 | 32 |
| rs975303 | 6 | G | A | 0.021 | 0.003 | LOC105374958 | 54 |
| rs1931805 | 6 | C | T | 0.013 | 0.002 | KHDRBS2 | 32 |
| rs113367286 | 7 | T | C | 0.015 | 0.002 | - | 37 |
| rs34198643 | 7 | T | C | -0.017 | 0.003 | MAD1L1 | 39 |
| rs12672200 | 7 | A | G | -0.014 | 0.002 | - | 33 |
| rs9649582 | 7 | T | A | -0.015 | 0.002 | CHCHD3 | 37 |
| rs7012814 | 8 | A | G | -0.019 | 0.002 | - | 67 |
| rs7386207 | 8 | T | C | -0.012 | 0.002 | - | 30 |
| rs13257887 | 8 | C | T | 0.016 | 0.003 | MSRA | 40 |
| rs3911016 | 9 | G | T | 0.021 | 0.003 | LOC105376121 | 39 |
| rs4503172 | 9 | T | C | 0.013 | 0.002 | TTLL11 | 32 |
| rs1806771 | 10 | G | T | -0.022 | 0.004 | ARID5B | 30 |
| rs73335955 | 10 | C | T | 0.028 | 0.005 | SORCS3 | 31 |
| rs10896050 | 11 | T | G | -0.018 | 0.003 | - | 42 |
| rs67238148 | 11 | T | G | 0.017 | 0.003 | OR10A6 | 37 |
| rs7936836 | 11 | A | C | 0.016 | 0.002 | HSD17B12 | 49 |
| rs73024305 | 11 | C | G | 0.033 | 0.005 | SLC37A2 | 44 |
| rs12786959 | 11 | T | A | -0.016 | 0.003 | CHORDC1 | 32 |
| rs524468 | 12 | G | A | -0.014 | 0.003 | SLC6A13 | 31 |
| rs1024853 | 12 | G | C | -0.013 | 0.002 | - | 32 |
| rs7298331 | 12 | C | A | -0.013 | 0.002 | - | 33 |
| rs12296440 | 12 | A | G | 0.019 | 0.003 | - | 40 |

| | | | | | | | |
|------------|----|---|---|--------|-------|----------------|----|
| rs61953351 | 12 | T | G | 0.015 | 0.003 | OASL | 32 |
| rs1073242 | 13 | A | G | 0.016 | 0.002 | - | 47 |
| rs11620149 | 13 | C | T | -0.018 | 0.003 | - | 30 |
| rs17115145 | 14 | T | C | -0.013 | 0.002 | PRKD1 | 32 |
| rs35270670 | 15 | G | A | 0.016 | 0.003 | WHAMM | 37 |
| rs4776970 | 15 | T | A | 0.015 | 0.002 | MAP2K5 | 44 |
| rs12447542 | 16 | A | G | 0.020 | 0.003 | RBFOX1 | 34 |
| rs61734410 | 16 | T | C | 0.017 | 0.003 | CAC-1H | 40 |
| rs62034322 | 16 | A | G | -0.014 | 0.002 | IL27 | 37 |
| rs71386942 | 16 | A | C | 0.014 | 0.003 | PKD1L3 | 33 |
| rs11649653 | 16 | G | C | 0.014 | 0.002 | - | 37 |
| rs919109 | 17 | C | G | 0.020 | 0.003 | HOXB6/HOXB-AS3 | 38 |
| rs2854175 | 17 | A | C | 0.017 | 0.003 | - | 44 |
| rs12951057 | 17 | G | C | -0.021 | 0.003 | NSF/LRRC37A2 | 48 |
| rs2960578 | 18 | G | T | 0.017 | 0.002 | NPC1 | 58 |
| rs1434511 | 18 | T | C | 0.013 | 0.002 | MIR4527HG | 33 |
| rs1291145 | 20 | C | T | -0.02 | 0.002 | SAMHD1 | 71 |
| rs6126641 | 20 | A | G | 0.013 | 0.002 | LOC105372666 | 30 |
| rs62236533 | 22 | A | G | 0.025 | 0.004 | - | 46 |

Chr: chromosome; EA: effect allele; NEA: non-effect allele; SE: standard error; SNP: single-nucleotide polymorphisms.