Table S1. Pleiotropic SNPs at the genome-wide level that have been associated with obesity (particularly in relation to BMI) in previous studies. (BMI, body mass index; Chr, chromosome; SE, standard error; SNP, single-nucleotide polymorphism)

1. **Shu et al. (46)**

|  |  |  |  |
| --- | --- | --- | --- |
| **SNPs** | **Traits** | **Effect Allele** | **Beta** |
| rs1000940 | BMI | G | 0.019 |
| rs10132280 | BMI | C | 0.023 |
| rs1045706 | BMI | C | 0.011 |
| rs1049205 | BMI | C | 0.012 |
| rs1051695 | BMI | A | 0.016 |
| rs1052618 | BMI | G | 0.011 |
| rs1053874 | BMI | A | 0.012 |
| rs1062633 | BMI | C | 0.019 |
| rs10733682 | BMI | A | 0.017 |
| rs10938397 | BMI | G | 0.04 |
| rs10968576 | BMI | G | 0.025 |
| rs1105223 | BMI | T | 0.011 |
| rs11057405 | BMI | G | 0.031 |
| rs11071896 | BMI | A | 0.013 |
| rs11189513 | BMI | A | 0.014 |
| rs1126930 | BMI | C | 0.034 |
| rs1131877 | BMI | C | 0.017 |
| rs1136001 | BMI | G | 0.011 |
| rs11539157 | BMI | C | 0.014 |
| rs11546878 | BMI | C | 0.017 |
| rs11554159 | BMI | A | 0.015 |
| rs11555762 | BMI | T | 0.014 |
| rs11583200 | BMI | C | 0.018 |
| rs11676272 | BMI | G | 0.029 |
| rs1167827 | BMI | G | 0.02 |
| rs11688816 | BMI | G | 0.017 |
| rs1169081 | BMI | G | 0.012 |
| rs11755393 | BMI | G | 0.02 |
| rs11847697 | BMI | T | 0.049 |
| rs12140153 | BMI | G | 0.03 |
| rs12199003 | BMI | T | 0.011 |
| rs12236219 | BMI | C | 0.025 |
| rs12273892 | BMI | A | 0.015 |
| rs12711521 | BMI | C | 0.013 |
| rs12828016 | BMI | G | 0.014 |
| rs12885454 | BMI | C | 0.021 |
| rs13078807 | BMI | G | 0.03 |
| rs13107325 | BMI | T | 0.048 |
| rs13191362 | BMI | A | 0.028 |
| rs13303 | BMI | C | 0.011 |
| rs141845046 | BMI | T | 0.048 |
| rs1441264 | BMI | A | 0.018 |
| rs145878042 | BMI | G | 0.066 |
| rs1528435 | BMI | T | 0.018 |
| rs1550116 | BMI | G | 0.016 |
| rs1555543 | BMI | C | 0.022 |
| rs1558902 | BMI | A | 0.082 |
| rs15818 | BMI | G | 0.013 |
| rs16849342 | BMI | C | 0.02 |
| rs16851483 | BMI | T | 0.048 |
| rs16907751 | BMI | C | 0.047 |
| rs17001654 | BMI | G | 0.031 |
| rs17024393 | BMI | C | 0.066 |
| rs17094222 | BMI | C | 0.025 |
| rs17203016 | BMI | G | 0.021 |
| rs17405819 | BMI | T | 0.022 |
| rs17724992 | BMI | A | 0.019 |
| rs17751061 | BMI | C | 0.021 |
| rs1800437 | BMI | G | 0.031 |
| rs1801265 | BMI | G | 0.013 |
| rs1801282 | BMI | G | 0.024 |
| rs1805123 | BMI | T | 0.017 |
| rs1808579 | BMI | C | 0.017 |
| rs1885987 | BMI | T | 0.01 |
| rs1928295 | BMI | T | 0.019 |
| rs1933437 | BMI | G | 0.016 |
| rs197412 | BMI | C | 0.013 |
| rs203462 | BMI | T | 0.01 |
| rs2075650 | BMI | A | 0.026 |
| rs2075803 | BMI | G | 0.01 |
| rs2076559 | BMI | A | 0.016 |
| rs2080454 | BMI | C | 0.017 |
| rs2111119 | BMI | C | 0.02 |
| rs215607 | BMI | G | 0.013 |
| rs2176040 | BMI | A | 0.014 |
| rs2178403 | BMI | A | 0.014 |
| rs2228210 | BMI | A | 0.014 |
| rs2228273 | BMI | A | 0.024 |
| rs2228552 | BMI | T | 0.012 |
| rs2241423 | BMI | G | 0.031 |
| rs2274741 | BMI | T | 0.016 |
| rs2277598 | BMI | C | 0.015 |
| rs2280843 | BMI | G | 0.015 |
| rs2296172 | BMI | G | 0.015 |
| rs2297792 | BMI | C | 0.013 |
| rs2301680 | BMI | G | 0.014 |
| rs2306590 | BMI | G | 0.016 |
| rs2307111 | BMI | T | 0.023 |
| rs2396359 | BMI | T | 0.015 |
| rs2815752 | BMI | A | 0.033 |
| rs2820292 | BMI | C | 0.02 |
| rs2836754 | BMI | C | 0.016 |
| rs284860 | BMI | T | 0.01 |
| rs2867125 | BMI | C | 0.06 |
| rs2890652 | BMI | C | 0.025 |
| rs29941 | BMI | G | 0.018 |
| rs30187 | BMI | C | 0.01 |
| rs3088142 | BMI | T | 0.017 |
| rs3184504 | BMI | C | 0.013 |
| rs34149579 | BMI | G | 0.033 |
| rs34811474 | BMI | G | 0.024 |
| rs3732530 | BMI | C | 0.015 |
| rs3736485 | BMI | A | 0.018 |
| rs3749591 | BMI | G | 0.012 |
| rs3760128 | BMI | G | 0.013 |
| rs3765407 | BMI | G | 0.015 |
| rs3766160 | BMI | G | 0.012 |
| rs3781409 | BMI | T | 0.011 |
| rs3810291 | BMI | A | 0.028 |
| rs3817334 | BMI | T | 0.026 |
| rs3849570 | BMI | A | 0.019 |
| rs4077410 | BMI | G | 0.017 |
| rs41312309 | BMI | T | 0.021 |
| rs45465594 | BMI | A | 0.04 |
| rs455527 | BMI | T | 0.02 |
| rs459552 | BMI | T | 0.012 |
| rs4741510 | BMI | T | 0.012 |
| rs4771122 | BMI | G | 0.03 |
| rs4851287 | BMI | A | 0.013 |
| rs4889891 | BMI | C | 0.012 |
| rs492400 | BMI | C | 0.016 |
| rs5219 | BMI | C | 0.012 |
| rs540742 | BMI | T | 0.012 |
| rs543874 | BMI | G | 0.048 |
| rs56084453 | BMI | A | 0.012 |
| rs56214831 | BMI | T | 0.057 |
| rs56384862 | BMI | G | 0.013 |
| rs571312 | BMI | A | 0.056 |
| rs5758651 | BMI | T | 0.012 |
| rs6050446 | BMI | G | 0.034 |
| rs6065 | BMI | T | 0.024 |
| rs61747555 | BMI | A | 0.015 |
| rs61754230 | BMI | T | 0.04 |
| rs62051555 | BMI | C | 0.024 |
| rs6234 | BMI | C | 0.017 |
| rs6265 | BMI | C | 0.041 |
| rs6477694 | BMI | C | 0.017 |
| rs657452 | BMI | A | 0.023 |
| rs6893216 | BMI | T | 0.018 |
| rs7126805 | BMI | A | 0.011 |
| rs7138803 | BMI | A | 0.032 |
| rs7191155 | BMI | T | 0.017 |
| rs7239883 | BMI | G | 0.023 |
| rs7243357 | BMI | T | 0.022 |
| rs7359397 | BMI | T | 0.031 |
| rs7406910 | BMI | C | 0.018 |
| rs7599312 | BMI | G | 0.022 |
| rs7601000 | BMI | T | 0.012 |
| rs7636 | BMI | A | 0.023 |
| rs7653652 | BMI | C | 0.015 |
| rs7715256 | BMI | G | 0.016 |
| rs78648104 | BMI | T | 0.02 |
| rs7899106 | BMI | G | 0.04 |
| rs7903146 | BMI | C | 0.023 |
| rs7978353 | BMI | A | 0.01 |
| rs80317617 | BMI | C | 0.019 |
| rs861539 | BMI | G | 0.013 |
| rs887912 | BMI | T | 0.023 |
| rs9374842 | BMI | T | 0.023 |
| rs9400239 | BMI | C | 0.019 |
| rs9438 | BMI | C | 0.013 |
| rs9652588 | BMI | C | 0.013 |
| rs977747 | BMI | T | 0.017 |
| rs987237 | BMI | G | 0.045 |
| rs9891146 | BMI | T | 0.015 |
| rs9925964 | BMI | A | 0.019 |

1. **Carreras-Torres et al. (47)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SNP** | **Trait** | **Chr** | **Position** | **Mean Imputation Quality** | **Effect Allele** | **Other Allele** | **Estimate** | **SE** |
| rs1000940 | BMI | 17 | 5283252 | 1 | G | A | 0.02 | 0 |
| rs10132280 | BMI | 14 | 25928179 | 0.99 | C | A | 0.02 | 0 |
| rs1016287 | BMI | 2 | 59305625 | 1 | T | C | 0.02 | 0 |
| rs10182181 | BMI | 2 | 25150296 | 1 | G | A | 0.03 | 0 |
| rs10464483 | BMI | 7 | 93193242 | 1 | T | C | 0.02 | 0 |
| rs10733682 | BMI | 9 | 129460914 | 1 | A | G | 0.02 | 0 |
| rs10938397 | BMI | 4 | 45182527 | 1 | G | A | 0.04 | 0 |
| rs10968576 | BMI | 9 | 28414339 | 1 | G | A | 0.03 | 0 |
| rs11030104 | BMI | 11 | 27684517 | 1 | A | G | 0.04 | 0 |
| rs11057405 | BMI | 12 | 122781897 | 1 | G | A | 0.03 | 0.01 |
| rs11126666 | BMI | 2 | 26928811 | 1 | A | G | 0.02 | 0 |
| rs11165643 | BMI | 1 | 96924097 | 1 | T | C | 0.02 | 0 |
| rs11191560 | BMI | 10 | 104869038 | 1 | C | T | 0.03 | 0.01 |
| rs11583200 | BMI | 1 | 50559820 | 1 | C | T | 0.02 | 0 |
| rs1167827 | BMI | 7 | 75163169 | 1 | G | A | 0.02 | 0 |
| rs11688816 | BMI | 2 | 63053048 | 1 | G | A | 0.02 | 0 |
| rs11727676 | BMI | 4 | 145659064 | 0.84 | T | C | 0.04 | 0.01 |
| rs11847697 | BMI | 14 | 30515112 | 0.98 | T | C | 0.05 | 0.01 |
| rs12286929 | BMI | 11 | 115022404 | 0.99 | G | A | 0.02 | 0 |
| rs12401738 | BMI | 1 | 78446761 | 0.99 | A | G | 0.02 | 0 |
| rs12429545 | BMI | 13 | 54102206 | 1 | A | G | 0.03 | 0.01 |
| rs12446632 | BMI | 16 | 19935389 | 1 | G | A | 0.04 | 0.01 |
| rs12566985 | BMI | 1 | 75002193 | 1 | G | A | 0.02 | 0 |
| rs12885454 | BMI | 14 | 29736838 | 0.99 | C | A | 0.02 | 0 |
| rs12940622 | BMI | 17 | 78615571 | 1 | G | A | 0.02 | 0 |
| rs13021737 | BMI | 2 | 632348 | 0.99 | G | A | 0.06 | 0 |
| rs13078960 | BMI | 3 | 85807590 | 1 | G | T | 0.03 | 0 |
| rs13107325 | BMI | 4 | 103188709 | 0.99 | T | C | 0.05 | 0.01 |
| rs13191362 | BMI | 6 | 163033350 | 0.99 | A | G | 0.03 | 0.01 |
| rs13201877 | BMI | 6 | 137675541 | 0.94 | G | A | 0.02 | 0.01 |
| rs1421085 | BMI | 16 | 53800954 | 1 | C | T | 0.08 | 0 |
| rs1441264 | BMI | 13 | 79580919 | 1 | A | G | 0.02 | 0 |
| rs1460676 | BMI | 2 | 164567689 | 0.99 | C | T | 0.02 | 0 |
| rs1516725 | BMI | 3 | 185824004 | 0.99 | C | T | 0.05 | 0.01 |
| rs1528435 | BMI | 2 | 181550962 | 1 | T | C | 0.02 | 0 |
| rs16851483 | BMI | 3 | 141275436 | 1 | T | G | 0.05 | 0.01 |
| rs16907751 | BMI | 8 | 81375457 | 0.98 | C | T | 0.04 | 0.01 |
| rs16951275 | BMI | 15 | 68077168 | 1 | T | C | 0.03 | 0 |
| rs17024393 | BMI | 1 | 110154688 | 0.99 | C | T | 0.07 | 0.01 |
| rs17094222 | BMI | 10 | 102395440 | 0.98 | C | T | 0.03 | 0 |
| rs17203016 | BMI | 2 | 208255518 | 1 | G | A | 0.02 | 0 |
| rs17405819 | BMI | 8 | 76806584 | 1 | T | C | 0.02 | 0 |
| rs17724992 | BMI | 19 | 18454825 | 1 | A | G | 0.02 | 0 |
| rs1808579 | BMI | 18 | 21104888 | 1 | C | T | 0.02 | 0 |
| rs1928295 | BMI | 9 | 120378483 | 1 | T | C | 0.02 | 0 |
| rs2033529 | BMI | 6 | 40348653 | 1 | G | A | 0.02 | 0 |
| rs2033732 | BMI | 8 | 85079709 | 0.99 | C | T | 0.02 | 0 |
| rs205262 | BMI | 6 | 34563164 | 1 | G | A | 0.02 | 0 |
| rs2075650 | BMI | 19 | 45395619 | 1 | A | G | 0.03 | 0.01 |
| rs2080454 | BMI | 16 | 49062590 | 1 | C | A | 0.02 | 0 |
| rs2112347 | BMI | 5 | 75015242 | 0.99 | T | G | 0.03 | 0 |
| rs2121279 | BMI | 2 | 143043285 | 1 | T | C | 0.03 | 0 |
| rs2176040 | BMI | 2 | 227092802 | 1 | A | G | 0.01 | 0 |
| rs2176598 | BMI | 11 | 43864278 | 1 | T | C | 0.02 | 0 |
| rs2207139 | BMI | 6 | 50845490 | 1 | G | A | 0.05 | 0 |
| rs2245368 | BMI | 7 | 76608143 | 0.94 | C | T | 0.03 | 0.01 |
| rs2287019 | BMI | 19 | 46202172 | 1 | C | T | 0.04 | 0 |
| rs2316901 | BMI | 11 | 8679016 | 1 | G | A | 0.02 | 0 |
| rs2365389 | BMI | 3 | 61236462 | 0.99 | C | T | 0.02 | 0 |
| rs2650492 | BMI | 16 | 28333411 | 1 | A | G | 0.02 | 0 |
| rs2820292 | BMI | 1 | 201784287 | 0.99 | C | A | 0.02 | 0 |
| rs2836754 | BMI | 21 | 40291740 | 1 | C | T | 0.02 | 0 |
| rs29941 | BMI | 19 | 34309532 | 1 | G | A | 0.02 | 0 |
| rs3101336 | BMI | 1 | 72751185 | 1 | C | T | 0.03 | 0 |
| rs3736485 | BMI | 15 | 51748610 | 0.99 | A | G | 0.02 | 0 |
| rs3810291 | BMI | 19 | 47569003 | 0.91 | A | G | 0.03 | 0 |
| rs3817334 | BMI | 11 | 47650993 | 1 | T | C | 0.03 | 0 |
| rs3849570 | BMI | 3 | 81792112 | 1 | A | C | 0.02 | 0 |
| rs3888190 | BMI | 16 | 28889486 | 1 | A | C | 0.03 | 0 |
| rs4740619 | BMI | 9 | 15634326 | 1 | T | C | 0.02 | 0 |
| rs4787491 | BMI | 16 | 30015337 | 0.99 | G | A | 0.02 | 0 |
| rs492400 | BMI | 2 | 219349752 | 0.99 | C | T | 0.02 | 0 |
| rs543874 | BMI | 1 | 177889480 | 1 | G | A | 0.05 | 0 |
| rs6091540 | BMI | 20 | 51087862 | 1 | C | T | 0.02 | 0 |
| rs6465468 | BMI | 7 | 95169514 | 0.98 | T | G | 0.02 | 0 |
| rs6477694 | BMI | 9 | 111932342 | 1 | C | T | 0.02 | 0 |
| rs6567160 | BMI | 18 | 57829135 | 0.99 | C | T | 0.06 | 0 |
| rs657452 | BMI | 1 | 49589847 | 1 | A | G | 0.02 | 0 |
| rs6804842 | BMI | 3 | 25106437 | 1 | G | A | 0.02 | 0 |
| rs7138803 | BMI | 12 | 50247468 | 1 | A | G | 0.03 | 0 |
| rs7141420 | BMI | 14 | 79899454 | 1 | T | C | 0.02 | 0 |
| rs7164727 | BMI | 15 | 73093991 | 1 | T | C | 0.02 | 0 |
| rs7239883 | BMI | 18 | 40147671 | 1 | G | A | 0.02 | 0 |
| rs7243357 | BMI | 18 | 56883319 | 0.99 | T | G | 0.02 | 0 |
| rs7599312 | BMI | 2 | 213413231 | 1 | G | A | 0.02 | 0 |
| rs7715256 | BMI | 5 | 153537893 | 1 | G | T | 0.02 | 0 |
| rs7899106 | BMI | 10 | 87410904 | 1 | G | A | 0.04 | 0.01 |
| rs7903146 | BMI | 10 | 114758349 | 1 | C | T | 0.02 | 0 |
| rs8082647 | BMI | 17 | 2010597 | 1 | C | T | 0.01 | 0 |
| rs9374842 | BMI | 6 | 120185665 | 1 | T | C | 0.02 | 0 |
| rs9400239 | BMI | 6 | 108977663 | 0.99 | C | T | 0.02 | 0 |
| rs9540493 | BMI | 13 | 66205704 | 0.98 | A | G | 0.02 | 0 |
| rs9581854 | BMI | 13 | 28017782 | 0.99 | T | C | 0.03 | 0.01 |
| rs977747 | BMI | 1 | 47684677 | 1 | T | G | 0.02 | 0 |
| rs9925964 | BMI | 16 | 31129895 | 1 | A | G | 0.02 | 0 |