Supplemental Table S1. Basic information of 40 genotyped SNPs in *SPON1*.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| CHR | POS | SNP | A1 | A2 | MAF | HWE | FUNC |
| 11 | 13962817 | rs7122836 | T | G | 0.24 | 0.74 | intron |
| 11 | 13963693 | rs59712449 | A | G | 0.27 | 0.86 | intron |
| 11 | 13967673 | rs10450577 | T | C | 0.41 | 0.59 | intron |
| 11 | 13967702 | rs11605043 | C | G | 0.17 | 0.81 | intron |
| 11 | 13973182 | rs79720447 | A | C | 0.14 | 0.74 | intron |
| 11 | 13974679 | rs1830390 | A | G | 0.11 | 0.68 | intron |
| 11 | 13975852 | rs9704394 | A | G | 0.47 | 0.60 | intron |
| 11 | 13975922 | rs58930801 | T | A | 0.30 | 0.95 | intron |
| 11 | 13976777 | rs4757217 | G | C | 0.26 | 0.86 | intron |
| 11 | 14000467 | rs2697852 | G | A | 0.17 | 0.81 | intron |
| 11 | 14013799 | rs75376202 | A | G | 0.34 | 0.86 | intron |
| 11 | 14032187 | rs11023057 | T | A | 0.13 | 1.00 | intron |
| 11 | 14063044 | rs1819083 | T | C | 0.38 | 0.79 | intron |
| 11 | 14067884 | rs2697825 | G | A | 0.17 | 0.35 | intron |
| 11 | 14078477 | rs10832177 | G | C | 0.33 | 0.76 | intron |
| 11 | 14090137 | rs113897588 | A | C | 0.26 | 0.55 | intron |
| 11 | 14091014 | rs7123121 | C | T | 0.50 | 0.79 | intron |
| 11 | 14107329 | rs10734220 | T | C | 0.10 | 0.55 | intron |
| 11 | 14107934 | rs10741632 | C | G | 0.29 | 0.69 | intron |
| 11 | 14128161 | rs7115922 | C | A | 0.32 | 0.61 | intron |
| 11 | 14155787 | rs12793953 | G | A | 0.28 | 0.64 | intron |
| 11 | 14160547 | rs545858283 | A | T | 0.19 | 0.69 | intron |
| 11 | 14160697 | rs561801491 | T | A | 0.21 | 0.62 | intron |
| 11 | 14163746 | rs12800433 | A | G | 0.45 | 0.96 | intron |
| 11 | 14171442 | rs11023126 | G | C | 0.12 | 0.56 | intron |
| 11 | 14172557 | rs61883820 | T | C | 0.15 | 0.63 | intron |
| 11 | 14176754 | rs75121055 | G | A | 0.18 | 0.86 | intron |
| 11 | 14192654 | rs6486179 | C | A | 0.12 | 0.95 | intron |
| 11 | 14197115 | rs79765765 | A | G | 0.13 | 0.54 | intron |
| 11 | 14203337 | rs4756776 | G | T | 0.23 | 0.91 | intron |
| 11 | 14209087 | rs80006480 | A | T | 0.28 | 0.63 | intron |
| 11 | 14211495 | rs10741641 | A | G | 0.11 | 0.77 | intron |
| 11 | 14212322 | rs72861675 | T | C | 0.10 | 0.94 | intron |
| 11 | 14225563 | rs1025413 | T | C | 0.49 | 0.98 | intron |
| 11 | 14234272 | rs10766177 | T | C | 0.35 | 0.74 | intron |
| 11 | 14234377 | rs34985514 | A | G | 0.11 | 0.83 | intron |
| 11 | 14242679 | rs11023160 | A | T | 0.48 | 0.91 | intron |
| 11 | 14244243 | rs4307686 | G | A | 0.23 | 0.76 | intron |
| 11 | 14244913 | rs10734222 | A | G | 0.23 | 0.91 | intron |
| 11 | 14254004 | rs10832239 | T | A | 0.14 | 0.91 | intron |

CHR: chromosome; POS: position; A1: minor allele; A2: major allele; MAF: minor allele frequency; HWE: *P* values for Hardy-Weinberg equilibrium tests; FUNC: function.

Supplemental Table S2. Full results of single marker based association analyses.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CHR | SNP | POS | A1 | OR | SE | L95 | U95 | *T*-statistics | *P* |
| 11 | rs7122836 | 13984364 | T | 0.97 | 0.04 | 0.89 | 1.04 | -0.86 | 0.39 |
| 11 | rs59712449 | 13985240 | A | 1.03 | 0.04 | 0.95 | 1.10 | 0.65 | 0.52 |
| 11 | rs10450577 | 13989220 | T | 1.02 | 0.03 | 0.96 | 1.10 | 0.70 | 0.49 |
| 11 | rs11605043 | 13989249 | C | 1.04 | 0.04 | 0.95 | 1.14 | 0.89 | 0.37 |
| 11 | rs79720447 | 13994729 | A | 1.04 | 0.05 | 0.95 | 1.14 | 0.82 | 0.41 |
| 11 | rs1830390 | 13996226 | A | 1.05 | 0.05 | 0.94 | 1.16 | 0.85 | 0.39 |
| 11 | rs9704394 | 13997399 | A | 1.02 | 0.03 | 0.96 | 1.09 | 0.66 | 0.51 |
| 11 | rs58930801 | 13997469 | T | 0.97 | 0.04 | 0.91 | 1.05 | -0.74 | 0.46 |
| 11 | rs4757217 | 13998324 | G | 1.02 | 0.04 | 0.94 | 1.10 | 0.46 | 0.64 |
| 11 | rs2697852 | 14022014 | G | 1.04 | 0.04 | 0.95 | 1.13 | 0.80 | 0.42 |
| 11 | rs75376202 | 14035346 | A | 1.02 | 0.04 | 0.95 | 1.10 | 0.64 | 0.52 |
| 11 | rs11023057 | 14053734 | T | 0.95 | 0.05 | 0.86 | 1.05 | -0.94 | 0.35 |
| 11 | rs1819083 | 14084591 | T | 1.02 | 0.03 | 0.95 | 1.09 | 0.51 | 0.61 |
| 11 | rs2697825 | 14089431 | G | 0.84 | 0.05 | 0.77 | 0.92 | -3.84 | 0.0001 |
| 11 | rs10832177 | 14100024 | G | 0.98 | 0.04 | 0.91 | 1.05 | -0.56 | 0.58 |
| 11 | rs113897588 | 14111683 | A | 0.98 | 0.04 | 0.91 | 1.06 | -0.48 | 0.63 |
| 11 | rs7123121 | 14112560 | C | 0.98 | 0.03 | 0.92 | 1.05 | -0.58 | 0.56 |
| 11 | rs10734220 | 14128875 | T | 1.07 | 0.05 | 0.97 | 1.19 | 1.31 | 0.19 |
| 11 | rs10741632 | 14129480 | C | 1.03 | 0.04 | 0.96 | 1.11 | 0.85 | 0.40 |
| 11 | rs7115922 | 14149707 | C | 1.02 | 0.04 | 0.95 | 1.10 | 0.61 | 0.54 |
| 11 | rs12793953 | 14177333 | G | 0.97 | 0.04 | 0.91 | 1.05 | -0.69 | 0.49 |
| 11 | rs545858283 | 14182093 | A | 0.96 | 0.04 | 0.89 | 1.05 | -0.83 | 0.41 |
| 11 | rs561801491 | 14182243 | T | 1.04 | 0.04 | 0.96 | 1.13 | 0.97 | 0.33 |
| 11 | rs12800433 | 14185292 | A | 1.03 | 0.03 | 0.96 | 1.10 | 0.77 | 0.44 |
| 11 | rs11023126 | 14192988 | G | 0.95 | 0.05 | 0.86 | 1.06 | -0.94 | 0.35 |
| 11 | rs61883820 | 14194103 | T | 0.97 | 0.05 | 0.88 | 1.07 | -0.62 | 0.53 |
| 11 | rs75121055 | 14198300 | G | 0.97 | 0.04 | 0.90 | 1.06 | -0.59 | 0.55 |
| 11 | rs6486179 | 14214200 | C | 1.05 | 0.05 | 0.95 | 1.16 | 0.98 | 0.33 |
| 11 | rs79765765 | 14218661 | A | 0.96 | 0.05 | 0.87 | 1.06 | -0.87 | 0.38 |
| 11 | rs4756776 | 14224883 | G | 0.97 | 0.04 | 0.90 | 1.05 | -0.67 | 0.51 |
| 11 | rs80006480 | 14230633 | A | 0.98 | 0.04 | 0.91 | 1.05 | -0.64 | 0.52 |
| 11 | rs10741641 | 14233041 | A | 1.07 | 0.05 | 0.96 | 1.19 | 1.19 | 0.24 |
| 11 | rs72861675 | 14233868 | T | 1.06 | 0.05 | 0.95 | 1.18 | 1.01 | 0.31 |
| 11 | rs1025413 | 14247109 | T | 1.02 | 0.03 | 0.95 | 1.09 | 0.53 | 0.60 |
| 11 | rs10766177 | 14255818 | T | 1.02 | 0.03 | 0.95 | 1.09 | 0.60 | 0.55 |
| 11 | rs34985514 | 14255923 | A | 0.95 | 0.05 | 0.85 | 1.06 | -0.96 | 0.33 |
| 11 | rs11023160 | 14264225 | A | 0.97 | 0.03 | 0.91 | 1.04 | -0.77 | 0.44 |
| 11 | rs4307686 | 14265789 | G | 1.04 | 0.04 | 0.96 | 1.12 | 0.95 | 0.34 |
| 11 | rs10734222 | 14266459 | A | 1.03 | 0.04 | 0.95 | 1.11 | 0.69 | 0.49 |
| 11 | rs10832239 | 14275550 | T | 1.06 | 0.05 | 0.97 | 1.16 | 1.22 | 0.22 |

CHR: chromosome; POS: position; A1: minor allele; SE: standard error; L95: lower bound of 95% confidence interval; U95: upper bound of 95% confidence interval.

Supplemental Table S3.Genetic association results between the selected 40 SNPs and BMD of femoral neck and lumbar spine stratified by osteoporosis status.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CHR | SNP | POS | A1 | FN in cases | | | FN in controls | | | LN in cases | | | LN in controls | | |
| β | STAT | *P* | β | STAT | *P* | β | STAT | *P* | β | STAT | *P* |
| 11 | rs7122836 | 13984364 | T | 0.0060 | 4.54 | < 1E-05 | 0.0056 | 5.83 | < 1E-05 | 0.0063 | 4.28 | < 1E-05 | 0.0049 | 5.64 | < 1E-05 |
| 11 | rs59712449 | 13985240 | A | 0.0062 | 5.04 | < 1E-05 | 0.0062 | 6.65 | < 1E-05 | 0.0066 | 4.76 | < 1E-05 | 0.0053 | 6.40 | < 1E-05 |
| 11 | rs10450577 | 13989220 | T | 0.0073 | 6.55 | < 1E-05 | 0.0081 | 9.63 | < 1E-05 | 0.0078 | 6.24 | < 1E-05 | 0.0067 | 8.94 | < 1E-05 |
| 11 | rs11605043 | 13989249 | C | 0.0078 | 5.31 | < 1E-05 | 0.0098 | 8.87 | < 1E-05 | 0.0082 | 5.02 | < 1E-05 | 0.0086 | 8.74 | < 1E-05 |
| 11 | rs79720447 | 13994729 | A | 0.0080 | 5.22 | < 1E-05 | 0.0098 | 8.39 | < 1E-05 | 0.0084 | 4.89 | < 1E-05 | 0.0087 | 8.32 | < 1E-05 |
| 11 | rs1830390 | 13996226 | A | 0.0144 | 8.53 | < 1E-05 | 0.0177 | 13.72 | < 1E-05 | 0.0155 | 8.23 | < 1E-05 | 0.0149 | 12.96 | < 1E-05 |
| 11 | rs9704394 | 13997399 | A | 0.0112 | 10.25 | < 1E-05 | 0.0133 | 16.36 | < 1E-05 | 0.0118 | 9.65 | < 1E-05 | 0.0110 | 15.18 | < 1E-05 |
| 11 | rs58930801 | 13997469 | T | 0.0189 | 16.24 | < 1E-05 | 0.0185 | 21.33 | < 1E-05 | 0.0205 | 15.72 | < 1E-05 | 0.0152 | 19.45 | < 1E-05 |
| 11 | rs4757217 | 13998324 | G | 0.0215 | 18.07 | < 1E-05 | 0.0214 | 23.66 | < 1E-05 | 0.0233 | 17.48 | < 1E-05 | 0.0176 | 21.68 | < 1E-05 |
| 11 | rs2697852 | 14022014 | G | 0.0086 | 6.02 | < 1E-05 | 0.0064 | 5.81 | < 1E-05 | 0.0096 | 5.99 | < 1E-05 | 0.0055 | 5.62 | < 1E-05 |
| 11 | rs75376202 | 14035346 | A | 0.0048 | 4.16 | < 1E-05 | 0.0040 | 4.63 | < 1E-05 | 0.0057 | 4.39 | < 1E-05 | 0.0036 | 4.62 | < 1E-05 |
| 11 | rs11023057 | 14053734 | T | 0.0437 | 29.54 | < 1E-05 | 0.0402 | 36.00 | < 1E-05 | 0.0473 | 28.37 | < 1E-05 | 0.0331 | 32.58 | < 1E-05 |
| 11 | rs1819083 | 14084591 | T | 0.0344 | 37.26 | < 1E-05 | 0.0363 | 52.35 | 0 | 0.0372 | 35.54 | < 1E-05 | 0.0304 | 47.62 | 0 |
| 11 | rs2697825 | 14089431 | G | 0.0671 | 80.17 | 0 | 0.0643 | 103.60 | 0 | 0.0727 | 72.83 | 0 | 0.0541 | 88.08 | 0 |
| 11 | rs10832177 | 14100024 | G | 0.0362 | 38.18 | < 1E-05 | 0.0386 | 54.68 | 0 | 0.0396 | 36.87 | < 1E-05 | 0.0328 | 50.67 | 0 |
| 11 | rs113897588 | 14111683 | A | 0.0339 | 31.12 | < 1E-05 | 0.0356 | 44.07 | 0 | 0.0371 | 30.23 | < 1E-05 | 0.0301 | 40.93 | 0 |
| 11 | rs7123121 | 14112560 | C | 0.0203 | 19.54 | < 1E-05 | 0.0217 | 28.04 | < 1E-05 | 0.0220 | 18.90 | < 1E-05 | 0.0184 | 26.42 | < 1E-05 |
| 11 | rs10734220 | 14128875 | T | 0.0174 | 10.09 | < 1E-05 | -0.0015 | -1.06 | 0.2885 | 0.0188 | 9.75 | < 1E-05 | -0.0020 | -1.61 | 0.1071 |
| 11 | rs10741632 | 14129480 | C | 0.0350 | 35.05 | < 1E-05 | 0.0371 | 48.86 | 0 | 0.0382 | 33.89 | < 1E-05 | 0.0313 | 45.01 | 0 |
| 11 | rs7115922 | 14149707 | C | 0.0189 | 16.82 | < 1E-05 | 0.0226 | 27.00 | < 1E-05 | 0.0208 | 16.51 | < 1E-05 | 0.0191 | 25.42 | < 1E-05 |
| 11 | rs12793953 | 14177333 | G | 0.0181 | 15.30 | < 1E-05 | 0.0213 | 24.63 | < 1E-05 | 0.0197 | 14.87 | < 1E-05 | 0.0182 | 23.48 | < 1E-05 |
| 11 | rs545858283 | 14182093 | A | 0.0087 | 6.11 | < 1E-05 | 0.0095 | 9.02 | < 1E-05 | 0.0093 | 5.81 | < 1E-05 | 0.0079 | 8.42 | < 1E-05 |
| 11 | rs561801491 | 14182243 | T | 0.0009 | 0.66 | 0.5108 | 0.0053 | 5.17 | < 1E-05 | 0.0008 | 0.56 | 0.5766 | 0.0045 | 4.93 | < 1E-05 |
| 11 | rs12800433 | 14185292 | A | 0.0018 | 1.59 | 0.1125 | 0.0031 | 3.67 | 0.0002424 | 0.0019 | 1.51 | 0.1303 | 0.0025 | 3.37 | 0.0007596 |
| 11 | rs11023126 | 14192988 | G | 0.0000 | -0.02 | 0.9828 | 0.0033 | 2.54 | 0.01126 | 0.0000 | 0.02 | 0.9843 | 0.0023 | 1.96 | 0.0501 |
| 11 | rs61883820 | 14194103 | T | 0.0013 | 0.80 | 0.4234 | 0.0037 | 3.18 | 0.001501 | 0.0014 | 0.77 | 0.4416 | 0.0025 | 2.39 | 0.01687 |
| 11 | rs75121055 | 14198300 | G | 0.0024 | 1.66 | 0.09678 | 0.0027 | 2.57 | 0.0101 | 0.0027 | 1.66 | 0.0966 | 0.0022 | 2.36 | 0.01843 |
| 11 | rs6486179 | 14214200 | C | 0.0011 | 0.68 | 0.4963 | 0.0039 | 3.06 | 0.002209 | 0.0010 | 0.55 | 0.5798 | 0.0033 | 2.93 | 0.003422 |
| 11 | rs79765765 | 14218661 | A | 0.0004 | 0.26 | 0.797 | 0.0040 | 3.25 | 0.001169 | 0.0004 | 0.21 | 0.8374 | 0.0030 | 2.73 | 0.006395 |
| 11 | rs4756776 | 14224883 | G | 0.0017 | 1.27 | 0.2038 | 0.0018 | 1.84 | 0.06598 | 0.0017 | 1.19 | 0.2338 | 0.0011 | 1.26 | 0.2078 |
| 11 | rs80006480 | 14230633 | A | 0.0014 | 1.15 | 0.2511 | 0.0009 | 1.03 | 0.3053 | 0.0013 | 0.97 | 0.3344 | 0.0005 | 0.61 | 0.5393 |
| 11 | rs10741641 | 14233041 | A | 0.0024 | 1.34 | 0.1802 | 0.0007 | 0.51 | 0.607 | 0.0027 | 1.39 | 0.1663 | 0.0006 | 0.52 | 0.6066 |
| 11 | rs72861675 | 14233868 | T | 0.0021 | 1.18 | 0.2393 | 0.0006 | 0.47 | 0.6382 | 0.0022 | 1.09 | 0.2749 | 0.0006 | 0.52 | 0.6044 |
| 11 | rs1025413 | 14247109 | T | 0.0012 | 1.06 | 0.2896 | 0.0006 | 0.74 | 0.4599 | 0.0010 | 0.81 | 0.4186 | 0.0004 | 0.60 | 0.5493 |
| 11 | rs10766177 | 14255818 | T | 0.0016 | 1.42 | 0.1546 | 0.0001 | 0.07 | 0.9412 | 0.0012 | 0.94 | 0.348 | 0.0002 | 0.30 | 0.762 |
| 11 | rs34985514 | 14255923 | A | 0.0035 | 1.93 | 0.05379 | 0.0005 | 0.35 | 0.7281 | 0.0028 | 1.35 | 0.1786 | -3.48E-08 | 0.00 | 1 |
| 11 | rs11023160 | 14264225 | A | 0.0008 | 0.72 | 0.4725 | -0.0006 | -0.67 | 0.505 | 0.0006 | 0.48 | 0.6332 | -0.0003 | -0.37 | 0.7135 |
| 11 | rs4307686 | 14265789 | G | 0.0010 | 0.78 | 0.4363 | 0.0003 | 0.27 | 0.7844 | 0.0011 | 0.78 | 0.4334 | 0.0004 | 0.44 | 0.6578 |
| 11 | rs10734222 | 14266459 | A | 0.0010 | 0.76 | 0.4485 | 0.0005 | 0.47 | 0.6409 | 0.0011 | 0.75 | 0.4529 | 0.0006 | 0.65 | 0.5172 |
| 11 | rs10832239 | 14275550 | T | 0.0027 | 1.71 | 0.08832 | -0.0001 | -0.07 | 0.9425 | 0.0029 | 1.68 | 0.09272 | 0.0004 | 0.39 | 0.6967 |

CHR: chromosome; POS: position; A1: minor allele.

Supplemental Table S4. Genetic association results conditioned on SNP rs2697825 of the selected 40 SNPs and BMD of femoral neck and lumbar spine stratified by osteoporosis status.

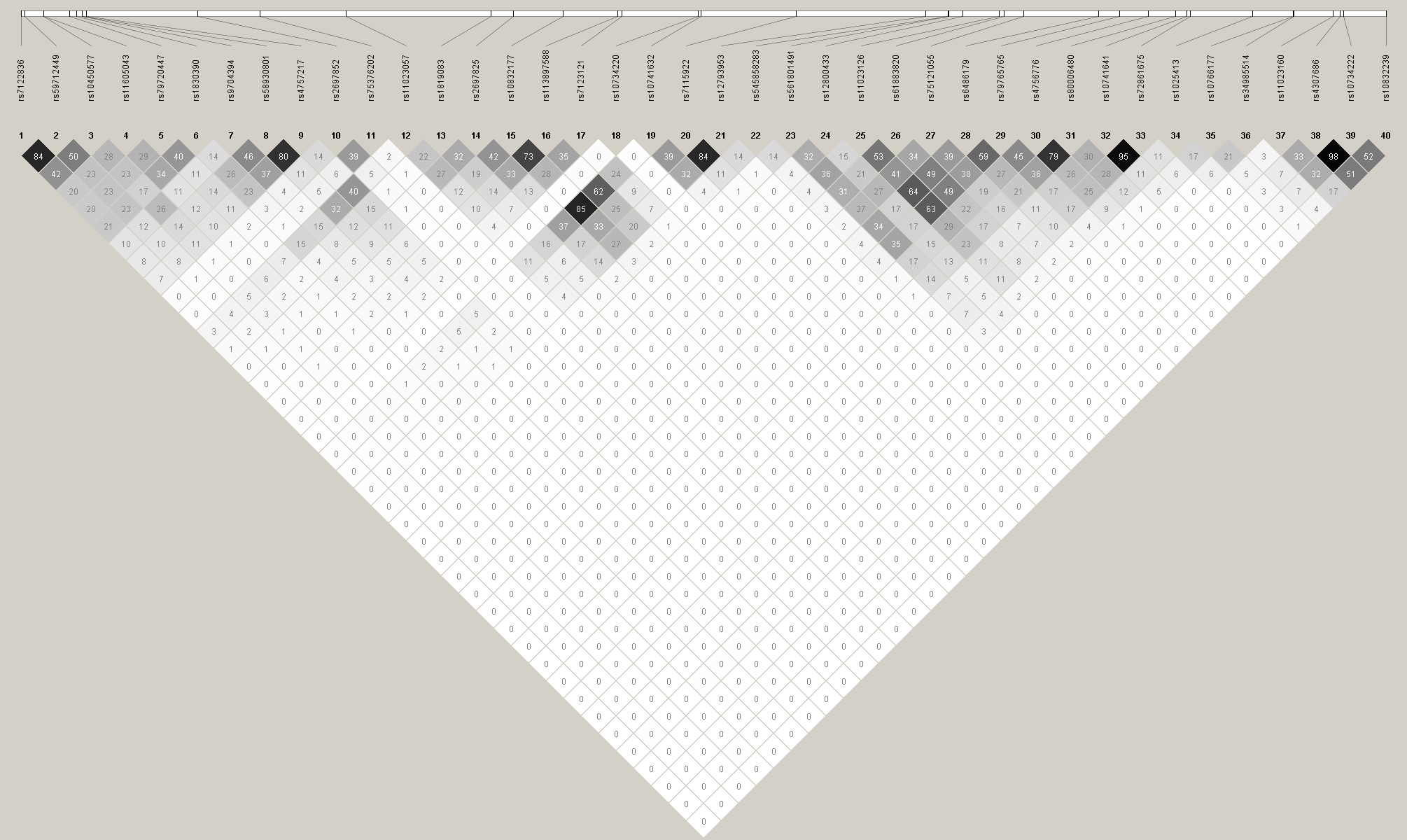
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CHR | SNP | POS | A1 | FN in cases | | | FN in controls | | | LN in cases | | | LN in controls | | |
| β | STAT | *P* | β | STAT | *P* | β | STAT | *P* | β | STAT | *P* |
| 11 | rs7122836 | 13984364 | T | 0.0007 | 0.94 | 0.348 | 0.0001 | 0.17 | 0.868 | 0.0006 | 0.65 | 0.519 | 0.0002 | 0.37 | 0.708 |
| 11 | rs59712449 | 13985240 | A | 0.0006 | 0.86 | 0.389 | 0.0001 | 0.16 | 0.876 | 0.0005 | 0.56 | 0.576 | 0.0002 | 0.35 | 0.725 |
| 11 | rs10450577 | 13989220 | T | 0.0002 | 0.34 | 0.733 | 0.0007 | 1.49 | 0.137 | 0.0001 | 0.13 | 0.900 | 0.0005 | 1.08 | 0.280 |
| 11 | rs11605043 | 13989249 | C | -0.0006 | -0.70 | 0.484 | 0.0005 | 0.76 | 0.447 | -0.0008 | -0.86 | 0.387 | 0.0008 | 1.26 | 0.209 |
| 11 | rs79720447 | 13994729 | A | -0.0005 | -0.62 | 0.534 | 0.0001 | 0.12 | 0.904 | -0.0009 | -0.86 | 0.390 | 0.0005 | 0.77 | 0.441 |
| 11 | rs1830390 | 13996226 | A | -0.0003 | -0.29 | 0.772 | 0.0010 | 1.24 | 0.214 | -0.0004 | -0.34 | 0.735 | 0.0009 | 1.16 | 0.244 |
| 11 | rs9704394 | 13997399 | A | -0.0004 | -0.69 | 0.488 | 0.0004 | 0.89 | 0.375 | -0.0008 | -1.11 | 0.267 | 0.0002 | 0.48 | 0.633 |
| 11 | rs58930801 | 13997469 | T | 0.0003 | 0.47 | 0.640 | 0.0002 | 0.37 | 0.713 | 0.0004 | 0.45 | 0.650 | -0.0003 | -0.50 | 0.615 |
| 11 | rs4757217 | 13998324 | G | 0.0003 | 0.41 | 0.684 | -0.0002 | -0.33 | 0.740 | 0.0003 | 0.39 | 0.700 | -0.0006 | -0.97 | 0.332 |
| 11 | rs2697852 | 14022014 | G | -0.0003 | -0.36 | 0.721 | 0.0003 | 0.45 | 0.654 | -0.0001 | -0.06 | 0.954 | 0.0004 | 0.62 | 0.534 |
| 11 | rs75376202 | 14035346 | A | -0.0007 | -1.16 | 0.245 | -0.0002 | -0.32 | 0.751 | -0.0003 | -0.44 | 0.661 | 0.0001 | 0.14 | 0.892 |
| 11 | rs11023057 | 14053734 | T | 0.0013 | 1.13 | 0.261 | 0.0003 | 0.31 | 0.760 | 0.0013 | 0.99 | 0.324 | -0.0008 | -0.95 | 0.341 |
| 11 | rs1819083 | 14084591 | T | 0.0011 | 1.28 | 0.200 | 0.0014 | 2.10 | 0.036 | 0.0011 | 1.07 | 0.284 | 0.0009 | 1.39 | 0.164 |
| 11 | rs2697825 | 14089431 | G | - | - | - | - | - | - | - | - | - | - | - | - |
| 11 | rs10832177 | 14100024 | G | 0.0009 | 1.04 | 0.299 | 0.0008 | 1.12 | 0.264 | 0.0016 | 1.47 | 0.141 | 0.0014 | 1.88 | 0.061 |
| 11 | rs113897588 | 14111683 | A | 0.0008 | 0.98 | 0.328 | 0.0004 | 0.62 | 0.536 | 0.0014 | 1.38 | 0.169 | 0.0006 | 0.87 | 0.386 |
| 11 | rs7123121 | 14112560 | C | -0.0001 | -0.18 | 0.859 | 0.0001 | 0.22 | 0.825 | -0.0001 | -0.13 | 0.897 | 0.0003 | 0.53 | 0.600 |
| 11 | rs10734220 | 14128875 | T | 0.0011 | 1.09 | 0.275 | 0.0007 | 0.89 | 0.376 | 0.0011 | 0.94 | 0.349 | -0.0002 | -0.20 | 0.839 |
| 11 | rs10741632 | 14129480 | C | 0.0012 | 1.44 | 0.150 | 0.0010 | 1.39 | 0.166 | 0.0018 | 1.75 | 0.080 | 0.0009 | 1.34 | 0.180 |
| 11 | rs7115922 | 14149707 | C | 0.0007 | 1.03 | 0.304 | 0.0012 | 2.16 | 0.031 | 0.0011 | 1.33 | 0.184 | 0.0012 | 2.11 | 0.035 |
| 11 | rs12793953 | 14177333 | G | 0.0008 | 1.16 | 0.248 | 0.0013 | 2.26 | 0.024 | 0.0010 | 1.15 | 0.251 | 0.0014 | 2.55 | 0.011 |
| 11 | rs545858283 | 14182093 | A | 0.0005 | 0.62 | 0.538 | 0.0018 | 2.93 | 0.003 | 0.0003 | 0.36 | 0.721 | 0.0015 | 2.40 | 0.017 |
| 11 | rs561801491 | 14182243 | T | 0.0004 | 0.61 | 0.544 | 0.0007 | 1.21 | 0.225 | 0.0004 | 0.41 | 0.679 | 0.0007 | 1.12 | 0.264 |
| 11 | rs12800433 | 14185292 | A | 0.0012 | 1.92 | 0.055 | 0.0006 | 1.28 | 0.199 | 0.0012 | 1.70 | 0.090 | 0.0005 | 0.95 | 0.340 |
| 11 | rs11023126 | 14192988 | G | 0.0007 | 0.68 | 0.496 | 0.0007 | 0.89 | 0.375 | 0.0008 | 0.69 | 0.491 | 0.0001 | 0.09 | 0.932 |
| 11 | rs61883820 | 14194103 | T | 0.0008 | 0.88 | 0.381 | 0.0008 | 1.21 | 0.227 | 0.0008 | 0.78 | 0.434 | 0.0001 | 0.09 | 0.927 |
| 11 | rs75121055 | 14198300 | G | 0.0007 | 0.84 | 0.399 | 0.0006 | 1.04 | 0.298 | 0.0008 | 0.85 | 0.394 | 0.0005 | 0.78 | 0.434 |
| 11 | rs6486179 | 14214200 | C | 0.0011 | 1.24 | 0.215 | 0.0008 | 1.17 | 0.244 | 0.0010 | 0.94 | 0.346 | 0.0008 | 1.06 | 0.288 |
| 11 | rs79765765 | 14218661 | A | 0.0010 | 1.11 | 0.266 | 0.0015 | 2.06 | 0.040 | 0.0010 | 0.93 | 0.351 | 0.0009 | 1.24 | 0.217 |
| 11 | rs4756776 | 14224883 | G | 0.0011 | 1.56 | 0.118 | 0.0006 | 1.00 | 0.318 | 0.0011 | 1.35 | 0.178 | 0.0001 | 0.11 | 0.911 |
| 11 | rs80006480 | 14230633 | A | 0.0010 | 1.41 | 0.158 | 0.0001 | 0.17 | 0.867 | 0.0008 | 1.03 | 0.305 | -0.0002 | -0.41 | 0.684 |
| 11 | rs10741641 | 14233041 | A | 0.0014 | 1.49 | 0.136 | 0.0002 | 0.21 | 0.837 | 0.0017 | 1.50 | 0.133 | 0.0002 | 0.22 | 0.824 |
| 11 | rs72861675 | 14233868 | T | 0.0014 | 1.46 | 0.144 | 0.0001 | 0.14 | 0.887 | 0.0014 | 1.24 | 0.214 | 0.0002 | 0.24 | 0.812 |
| 11 | rs1025413 | 14247109 | T | 0.0009 | 1.53 | 0.125 | 0.0001 | 0.13 | 0.899 | 0.0007 | 1.02 | 0.310 | 0.0000 | -0.04 | 0.965 |
| 11 | rs10766177 | 14255818 | T | 0.0002 | 0.25 | 0.805 | -0.0001 | -0.12 | 0.906 | -0.0004 | -0.54 | 0.590 | 0.0001 | 0.26 | 0.791 |
| 11 | rs34985514 | 14255923 | A | 0.0006 | 0.63 | 0.531 | 0.0003 | 0.38 | 0.701 | -0.0004 | -0.34 | 0.735 | -0.0001 | -0.19 | 0.853 |
| 11 | rs11023160 | 14264225 | A | -0.0004 | -0.68 | 0.496 | -0.0004 | -0.73 | 0.463 | -0.0007 | -1.00 | 0.318 | -0.0001 | -0.22 | 0.828 |
| 11 | rs4307686 | 14265789 | G | 0.0001 | 0.10 | 0.922 | 0.0000 | 0.02 | 0.986 | 0.0001 | 0.14 | 0.891 | 0.0002 | 0.31 | 0.760 |
| 11 | rs10734222 | 14266459 | A | 0.0001 | 0.20 | 0.840 | 0.0001 | 0.12 | 0.901 | 0.0002 | 0.21 | 0.834 | 0.0002 | 0.43 | 0.666 |
| 11 | rs10832239 | 14275550 | T | 0.0008 | 0.93 | 0.352 | -0.0002 | -0.22 | 0.824 | 0.0009 | 0.89 | 0.372 | 0.0004 | 0.53 | 0.599 |

CHR: chromosome; POS: position; A1: minor allele.

Supplemental Table S5. eQTL signals for SNP rs2697825 on *SPON1* in multiple human tissues.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| GENE | SNP | *P*-Value | NES | *T*-statistic | Tissue |
| *SPON1* | rs2697825 | 1.60E-09 | 0.45 | 6.30 | Heart - Atrial Appendage |
| *SPON1* | rs2697825 | 2.30E-05 | 0.24 | 4.30 | Testis |
| *SPON1* | rs2697825 | 0.0057 | 0.21 | 2.80 | Heart - Left Ventricle |
| *SPON1* | rs2697825 | 0.0061 | 0.15 | 2.80 | Thyroid |
| *SPON1* | rs2697825 | 0.0096 | 0.26 | 2.60 | Liver |
| *SPON1* | rs2697825 | 0.02 | 0.26 | 2.40 | Ovary |
| *SPON1* | rs2697825 | 0.02 | 0.20 | 2.40 | Artery - Coronary |
| *SPON1* | rs2697825 | 0.04 | 0.12 | 2.10 | Adipose - Visceral (Omentum) |
| *SPON1* | rs2697825 | 0.08 | 0.09 | 1.80 | Lung |
| *SPON1* | rs2697825 | 0.09 | 0.08 | 1.70 | Skin - Sun Exposed (Lower leg) |
| *SPON1* | rs2697825 | 0.10 | 0.17 | 1.70 | Brain - Hypothalamus |
| *SPON1* | rs2697825 | 0.10 | -0.20 | -1.70 | Brain - Spinal cord (cervical c-1) |
| *SPON1* | rs2697825 | 0.12 | -0.10 | -1.60 | Brain - Frontal Cortex (BA9) |
| *SPON1* | rs2697825 | 0.13 | 0.08 | 1.50 | Artery - Tibial |
| *SPON1* | rs2697825 | 0.14 | 0.08 | 1.50 | Muscle - Skeletal |
| *SPON1* | rs2697825 | 0.14 | 0.13 | 1.50 | Spleen |
| *SPON1* | rs2697825 | 0.15 | -0.11 | -1.50 | Brain - Putamen (basal ganglia) |
| *SPON1* | rs2697825 | 0.18 | 0.21 | 1.40 | Minor Salivary Gland |
| *SPON1* | rs2697825 | 0.18 | 0.09 | 1.40 | Whole Blood |
| *SPON1* | rs2697825 | 0.22 | 0.05 | 1.20 | Adipose - Subcutaneous |
| *SPON1* | rs2697825 | 0.23 | 0.09 | 1.20 | Pancreas |
| *SPON1* | rs2697825 | 0.26 | -0.06 | -1.10 | Brain - Nucleus accumbens (basal ganglia) |
| *SPON1* | rs2697825 | 0.29 | 0.09 | 1.10 | Brain - Amygdala |
| *SPON1* | rs2697825 | 0.29 | 0.06 | 1.10 | Esophagus - Mucosa |
| *SPON1* | rs2697825 | 0.29 | 0.08 | 1.00 | Esophagus - Muscularis |
| *SPON1* | rs2697825 | 0.38 | 0.14 | 0.88 | Cells - EBV-transformed lymphocytes |
| *SPON1* | rs2697825 | 0.39 | -0.07 | -0.87 | Adrenal Gland |
| *SPON1* | rs2697825 | 0.41 | 0.13 | 0.83 | Brain - Cerebellum |
| *SPON1* | rs2697825 | 0.41 | -0.08 | -0.83 | Brain - Hippocampus |
| *SPON1* | rs2697825 | 0.41 | -0.05 | -0.83 | Stomach |
| *SPON1* | rs2697825 | 0.42 | -0.07 | -0.80 | Pituitary |
| *SPON1* | rs2697825 | 0.44 | 0.08 | 0.77 | Brain - Substantia nigra |
| *SPON1* | rs2697825 | 0.46 | -0.08 | -0.74 | Colon - Sigmoid |
| *SPON1* | rs2697825 | 0.52 | 0.03 | 0.65 | Nerve - Tibial |
| *SPON1* | rs2697825 | 0.68 | 0.02 | 0.42 | Artery - Aorta |
| *SPON1* | rs2697825 | 0.73 | -0.02 | -0.34 | Breast - Mammary Tissue |
| *SPON1* | rs2697825 | 0.76 | 0.03 | 0.31 | Small Intestine - Terminal Ileum |
| *SPON1* | rs2697825 | 0.76 | 0.05 | 0.31 | Vagina |
| *SPON1* | rs2697825 | 0.78 | 0.02 | 0.27 | Skin - Not Sun Exposed (Suprapubic) |
| *SPON1* | rs2697825 | 0.78 | -0.03 | -0.28 | Uterus |
| *SPON1* | rs2697825 | 0.79 | -0.02 | -0.27 | Brain - Anterior cingulate cortex (BA24) |
| *SPON1* | rs2697825 | 0.83 | 0.01 | 0.21 | Brain - Cortex |
| *SPON1* | rs2697825 | 0.85 | 0.01 | 0.18 | Colon - Transverse |
| *SPON1* | rs2697825 | 0.89 | 0.01 | 0.14 | Brain - Caudate (basal ganglia) |
| *SPON1* | rs2697825 | 0.89 | 0.01 | 0.13 | Cells - Transformed fibroblasts |
| *SPON1* | rs2697825 | 0.94 | -0.01 | -0.07 | Prostate |
| *SPON1* | rs2697825 | 0.96 | 0.01 | 0.06 | Brain - Cerebellar Hemisphere |

NES: normalized effect size.



Supplemental Figure S1. LD plot of the 40 genotyped SNPs in our study subjects with r2 value in each diamond.