

Table S1 Genotypes and association results for SNPs at Xq21.1 in the initial genome-wide scan

| SNP | Position | Reference allele | Female cases | Male cases | Female controls | Male controls | P value | | OR(95%CI) |
|------------|------------|------------------|-----------------|------------|-----------------|---------------|---------------------|-----------|-------------------|
| | | | AA/Aa/aa | AA/aa | AA/Aa/aa | AA/aa | logistic regression | snpMatrix | |
| rs1000530 | 78,010,734 | T | 765 / 310 / 41 | 290/58 | 729 / 340 / 58 | 297/64 | 2.71E-02 | 4.84E-02 | 1.27(0.96- 1.67) |
| rs5912686 | 78,078,046 | G | 790 / 292 / 34 | 300/49 | 756 / 324 / 46 | 302/60 | 2.57E-02 | 3.17E-02 | 1.32(0.98- 1.78) |
| rs2858575 | 78,089,897 | C | 962 / 152 / 2 | 326/24 | 974 / 149 / 4 | 334/29 | 8.47E-01 | 7.25E-01 | 1.25(0.74- 2.10) |
| rs5959212 | 78,106,116 | G | 933 / 173 / 10 | 323/23 | 886 / 227 / 14 | 328/34 | 1.23E-03 | 2.06E-03 | 1.50(0.96- 2.36) |
| rs11799022 | 78,133,128 | A | 406 / 508 / 202 | 223/118 | 321 / 550 / 256 | 177/183 | 6.69E-08 | 3.42E-09 | 1.73(1.44- 2.09) |
| rs5912206 | 78,165,867 | C | 922 / 187 / 7 | 321/28 | 900 / 211 / 16 | 325/37 | 2.68E-02 | 3.04E-02 | 1.54(1.00- 2.37) |
| rs5959225 | 78,186,487 | C | 441 / 505 / 169 | 233/109 | 363 / 543 / 221 | 189/171 | 2.00E-07 | 1.17E-08 | 1.72(1.42- 2.08) |
| rs5912749 | 78,239,990 | A | 580 / 441 / 95 | 261/82 | 513 / 489 / 125 | 226/135 | 9.61E-06 | 7.38E-07 | 1.67(1.35- 2.07) |
| rs2411976 | 78,270,514 | A | 449 / 506 / 161 | 233/109 | 370 / 539 / 217 | 191/169 | 1.21E-07 | 9.36E-09 | 1.74(1.44- 2.10) |
| rs2411975 | 78,281,726 | T | 448 / 507 / 161 | 232/109 | 368 / 542 / 217 | 189/171 | 7.84E-08 | 4.99E-09 | 1.75(1.45- 2.12) |
| rs17317518 | 78,289,574 | T | 1057 / 58 / 1 | 338/12 | 1068 / 57 / 2 | 356/7 | 6.75E-01 | 4.61E-01 | 0.68(0.29- 1.59) |
| rs5912785 | 78,306,987 | T | 444 / 508 / 164 | 232/109 | 366 / 541 / 220 | 187/172 | 9.20E-08 | 4.77E-09 | 1.76(1.45- 2.12) |
| rs3827440 | 78,313,644 | G | 444 / 508 / 163 | 232/109 | 367 / 541 / 219 | 186/172 | 9.52E-08 | 4.60E-09 | 1.76(1.45- 2.13) |
| rs5959276 | 78,382,774 | T | 921 / 187 / 8 | 324/24 | 904 / 208 / 15 | 325/37 | 3.69E-02 | 2.72E-02 | 1.65(1.05- 2.57) |
| rs5912838 | 78,383,774 | C | 447 / 512 / 157 | 235/106 | 369 / 546 / 212 | 186/173 | 4.60E-08 | 1.36E-09 | 1.80(1.48- 2.18) |
| rs2411961 | 78,395,137 | A | 1050 / 64 / 2 | 339/11 | 1068 / 57 / 2 | 356/7 | 3.25E-01 | 2.57E-01 | 0.68(0.29- 1.58) |
| rs17324573 | 78,407,358 | A | 534 / 460 / 122 | 250/94 | 449 / 516 / 162 | 215/144 | 6.54E-07 | 1.05E-07 | 1.67(1.37- 2.05) |
| rs10521391 | 78,409,291 | T | 495 / 466 / 154 | 235/108 | 413 / 522 / 192 | 206/153 | 6.08E-06 | 1.77E-06 | 1.55(1.28- 1.88) |
| rs12012447 | 78,430,997 | A | 950 / 157 / 9 | 322/27 | 908 / 207 / 12 | 327/35 | 3.48E-03 | 6.03E-03 | 1.34(0.87- 2.09) |
| rs1736673 | 78,446,191 | C | 888 / 208 / 20 | 305/40 | 840 / 264 / 23 | 318/44 | 1.11E-02 | 2.68E-02 | 1.15(0.80- 1.65) |
| rs5912878 | 78,452,318 | G | 546 / 467 / 103 | 256/84 | 500 / 485 / 142 | 218/142 | 3.81E-05 | 1.78E-06 | 1.70(1.37- 2.09) |
| rs1736661 | 78,463,483 | G | 1041 / 72 / 3 | 334/14 | 1046 / 77 / 4 | 351/12 | 7.91E-01 | 9.46E-01 | 0.93(0.47- 1.84) |
| rs5959303 | 78,473,400 | G | 525 / 477 / 114 | 252/88 | 488 / 498 / 141 | 216/144 | 6.21E-04 | 3.78E-05 | 1.56(1.27- 1.92) |

Table S1 continued

| | | | | | | | | | |
|------------|------------|---|-----------------|---------|-----------------|---------|----------|----------|-------------------|
| rs6619915 | 78,474,243 | A | 283 / 545 / 287 | 168/171 | 335 / 566 / 226 | 219/140 | 2.45E-05 | 6.12E-06 | 0.65(0.54- 0.78) |
| rs13441063 | 78,474,451 | C | 806 / 284 / 26 | 285/59 | 770 / 327 / 30 | 298/64 | 6.32E-02 | 1.01E-01 | 1.13(0.83- 1.53) |
| rs1736646 | 78,483,152 | C | 521 / 482 / 113 | 248/91 | 474 / 514 / 139 | 208/152 | 1.33E-04 | 4.78E-06 | 1.61(1.31- 1.98) |
| rs1751107 | 78,487,758 | C | 385 / 539 / 189 | 211/129 | 322 / 565 / 240 | 169/191 | 2.49E-06 | 1.58E-07 | 1.65(1.36- 1.99) |
| rs1751105 | 78,491,316 | C | 292 / 559 / 264 | 166/175 | 349 / 565 / 213 | 220/139 | 2.46E-05 | 4.07E-06 | 0.65(0.54- 0.78) |
| rs1040408 | 78,495,923 | G | 919 / 186 / 11 | 317/32 | 894 / 218 / 15 | 323/40 | 4.32E-02 | 5.00E-02 | 1.30(0.86- 1.95) |
| rs2056918 | 78,515,834 | C | 899 / 201 / 16 | 317/31 | 892 / 216 / 19 | 325/36 | 3.23E-01 | 3.34E-01 | 1.17(0.79- 1.74) |
| rs5912919 | 78,530,923 | A | 969 / 143 / 4 | 323/27 | 958 / 158 / 11 | 340/23 | 2.36E-01 | 4.37E-01 | 1.09(0.67- 1.79) |
| rs1474563 | 78,535,849 | T | 765 / 320 / 31 | 288/58 | 743 / 337 / 47 | 303/58 | 1.26E-01 | 2.28E-01 | 1.19(0.88- 1.60) |
| rs5959348 | 78,557,496 | A | 765 / 320 / 31 | 288/58 | 742 / 337 / 48 | 302/59 | 1.02E-01 | 1.86E-01 | 1.21(0.90- 1.63) |
| rs5959349 | 78,557,743 | G | 765 / 320 / 31 | 287/59 | 741 / 338 / 48 | 302/59 | 1.03E-01 | 1.97E-01 | 1.20(0.89- 1.61) |
| rs5912942 | 78,565,893 | A | 970 / 142 / 4 | 323/27 | 958 / 158 / 11 | 340/23 | 2.15E-01 | 4.10E-01 | 1.09(0.67- 1.79) |
| rs5959353 | 78,569,995 | C | 901 / 199 / 16 | 317/31 | 896 / 212 / 19 | 326/35 | 3.89E-01 | 4.10E-01 | 1.15(0.77- 1.71) |
| rs1120643 | 78,620,799 | T | 1006 / 106 / 4 | 339/11 | 1004 / 118 / 5 | 340/23 | 1.39E-01 | 6.77E-02 | 1.87(0.99- 3.51) |
| rs5958896 | 78,647,702 | G | 541 / 462 / 112 | 242/99 | 489 / 503 / 135 | 214/146 | 4.65E-04 | 6.78E-05 | 1.48(1.21- 1.82) |
| rs5912953 | 78,659,755 | T | 624 / 415 / 77 | 258/83 | 595 / 439 / 93 | 239/121 | 1.06E-02 | 2.39E-03 | 1.41(1.13- 1.77) |
| rs7059686 | 78,693,245 | C | 874 / 221 / 21 | 313/35 | 854 / 259 / 14 | 316/47 | 1.81E-01 | 1.38E-01 | 1.11(0.76- 1.60) |
| rs11796452 | 78,696,855 | C | 874 / 221 / 21 | 313/35 | 854 / 259 / 14 | 316/47 | 1.81E-01 | 1.38E-01 | 1.11(0.76- 1.60) |
| rs5959388 | 78,719,264 | C | 310 / 575 / 231 | 191/147 | 310 / 531 / 286 | 160/200 | 7.00E-03 | 1.05E-03 | 1.37(1.14- 1.65) |
| rs1353452 | 78,734,728 | T | 873 / 223 / 20 | 310/38 | 843 / 270 / 14 | 316/47 | 9.67E-02 | 9.93E-02 | 1.07(0.74- 1.55) |
| rs1496186 | 78,759,538 | C | 871 / 224 / 21 | 311/37 | 841 / 270 / 16 | 316/47 | 8.35E-02 | 8.19E-02 | 1.11(0.77- 1.60) |
| rs12014367 | 78,761,577 | T | 878 / 217 / 20 | 315/33 | 859 / 254 / 14 | 319/44 | 1.78E-01 | 1.44E-01 | 1.11(0.76- 1.62) |
| rs1496210 | 78,769,541 | T | 871 / 224 / 21 | 311/37 | 839 / 272 / 16 | 315/48 | 6.40E-02 | 6.06E-02 | 1.13(0.79- 1.63) |
| rs12012345 | 78,772,193 | A | 871 / 224 / 21 | 311/37 | 838 / 273 / 16 | 316/47 | 6.39E-02 | 6.56E-02 | 1.11(0.77- 1.60) |
| rs5959408 | 78,800,927 | G | 277 / 585 / 254 | 173/166 | 329 / 517 / 281 | 208/150 | 1.74E-01 | 8.15E-02 | 0.86(0.72- 1.03) |

Table S1 continued

| | | | | | | | | | |
|-----------|------------|---|-----------------|---------|-----------------|---------|----------|----------|-------------------|
| rs5958916 | 78,815,765 | A | 434 / 532 / 150 | 218/122 | 456 / 486 / 185 | 199/159 | 1.99E-01 | 6.96E-02 | 1.26(1.04- 1.53) |
| rs2132476 | 78,825,632 | T | 434 / 531 / 151 | 218/122 | 456 / 485 / 186 | 199/159 | 2.00E-01 | 6.99E-02 | 1.26(1.04- 1.52) |
| rs1353456 | 78,829,377 | C | 433 / 533 / 150 | 218/122 | 455 / 487 / 185 | 198/160 | 1.90E-01 | 6.26E-02 | 1.26(1.04- 1.53) |
| rs5913021 | 78,831,415 | T | 666 / 384 / 65 | 269/72 | 682 / 378 / 67 | 251/104 | 4.97E-01 | 1.70E-01 | 1.25(0.98- 1.59) |
| rs5959428 | 78,833,078 | G | 425 / 541 / 150 | 217/123 | 457 / 505 / 165 | 197/163 | 6.15E-01 | 2.24E-01 | 1.18(0.97- 1.43) |
| rs7063238 | 78,840,039 | C | 810 / 285 / 21 | 297/50 | 828 / 275 / 24 | 307/56 | 8.88E-01 | 9.97E-01 | 1.10(0.79- 1.53) |
| rs5912329 | 78,843,061 | G | 423 / 540 / 150 | 206/123 | 457 / 502 / 166 | 194/163 | 7.02E-01 | 2.94E-01 | 1.16(0.96- 1.41) |
| rs5912331 | 78,843,683 | T | 667 / 384 / 65 | 271/72 | 681 / 379 / 67 | 253/107 | 4.25E-01 | 1.25E-01 | 1.28(1.00- 1.62) |
| rs1948538 | 78,865,535 | A | 855 / 243 / 18 | 300/44 | 868 / 237 / 22 | 328/35 | 6.19E-01 | 4.12E-01 | 0.89(0.61- 1.28) |
| rs2898803 | 78,904,750 | C | 854 / 244 / 18 | 300/44 | 867 / 238 / 22 | 328/35 | 6.19E-01 | 4.12E-01 | 0.89(0.61- 1.28) |
| rs3127143 | 78,948,815 | T | 468 / 502 / 146 | 220/117 | 492 / 476 / 159 | 218/142 | 8.05E-01 | 5.36E-01 | 1.11(0.91- 1.35) |
| rs4596772 | 78,989,702 | G | 854 / 244 / 18 | 298/47 | 866 / 238 / 23 | 328/35 | 5.93E-01 | 3.41E-01 | 0.86(0.60- 1.24) |
| rs2263534 | 78,990,685 | T | 854 / 244 / 18 | 298/47 | 865 / 239 / 23 | 328/35 | 6.22E-01 | 3.59E-01 | 0.86(0.60- 1.24) |

Table S2. Association results of the imputed and typed SNPs in the region from 78Mb to 79Mb on X chromosome in initial genome-wide scan

| SNP | Position | allele_A | allele_B | <i>p</i> value | Certainty | SNP Type |
|-----------------|----------|----------|----------|----------------|-----------|----------|
| rs6615046 | 78000649 | T | C | 5.64E-01 | | Typed |
| rs4573413 | 78002855 | A | C | 1.61E-04 | | Typed |
| rs5912638 | 78007456 | C | T | 1.53E-01 | | Typed |
| rs5959189 | 78012894 | T | C | 8.28E-02 | | Typed |
| rs5959190 | 78014946 | T | G | 1.53E-01 | | Typed |
| rs3123295 | 78017518 | A | G | 4.14E-04 | | Typed |
| rs188727915 | 78018101 | G | A | 1.20E-01 | 0.999 | Imputed |
| rs3132267 | 78024086 | G | A | 2.57E-01 | | Typed |
| rs181648847 | 78026553 | A | G | 1.70E-01 | 0.999 | Imputed |
| rs144459946 | 78027795 | A | G | 5.90E-01 | 0.998 | Imputed |
| rs183207722 | 78027869 | T | A | 5.80E-01 | 0.999 | Imputed |
| rs144703370 | 78031292 | C | T | 6.38E-01 | 0.999 | Imputed |
| rs150983838 | 78034163 | C | T | 5.00E-01 | 0.993 | Imputed |
| rs5912644 | 78035351 | C | T | 8.46E-02 | | Typed |
| rs149129349 | 78041466 | G | A | 5.97E-01 | 0.996 | Imputed |
| rs149855931 | 78050311 | G | A | 5.58E-01 | 0.998 | Imputed |
| rs144488820 | 78054496 | G | T | 5.00E-01 | 0.998 | Imputed |
| rs138005259 | 78056540 | G | A | 6.48E-01 | 0.998 | Imputed |
| rs147620443 | 78057557 | T | G | 7.50E-01 | 0.998 | Imputed |
| rs4263894 | 78063755 | C | T | 2.64E-04 | | Typed |
| rs5912181 | 78067644 | A | G | 3.60E-04 | | Typed |
| rs5959200 | 78068751 | T | C | 7.11E-01 | 0.996 | Imputed |
| rs143866491 | 78075623 | T | C | 4.00E-01 | 0.998 | Imputed |
| rs17324447 | 78078155 | G | A | 2.59E-03 | | Typed |
| rs189224654 | 78078836 | G | C | 6.41E-01 | 0.999 | Imputed |
| rs72629930 | 78079960 | T | C | 5.00E-01 | 0.998 | Imputed |
| rs192271545 | 78081799 | G | A | 3.20E-01 | 0.997 | Imputed |
| rs181057598 | 78085205 | C | A | 4.03E-01 | 0.998 | Imputed |
| rs189830243 | 78091038 | G | A | 3.93E-01 | 0.998 | Imputed |
| rs185538709 | 78104417 | T | C | 9.95E-01 | 0.998 | Imputed |
| rs146418470 | 78108351 | T | A | 5.83E-01 | 0.998 | Imputed |
| rs12687690 | 78111578 | G | T | 3.05E-02 | | Typed |
| rs142317058 | 78114560 | A | G | 4.86E-01 | 0.996 | Imputed |
| rs188799060 | 78116172 | G | A | 5.00E-01 | 0.997 | Imputed |
| rs148960869 | 78119036 | A | G | 4.93E-01 | 0.996 | Imputed |
| rs193041002 | 78120258 | T | A | 1.34E-01 | 0.999 | Imputed |
| rs150002139 | 78138612 | A | G | 7.32E-01 | 0.999 | Imputed |
| chrX:78142028:D | 78142028 | TAA | T | 7.31E-01 | 0.999 | Imputed |
| rs188797500 | 78150777 | C | T | 3.90E-01 | 0.998 | Imputed |
| rs149520185 | 78152160 | T | G | 7.00E-01 | 0.998 | Imputed |
| rs184828121 | 78164363 | A | G | 1.95E-01 | 0.998 | Imputed |
| rs138365450 | 78164621 | G | A | 3.92E-01 | 0.993 | Imputed |

Table S2 continued

| | | | | | | |
|-------------|----------|---|---|----------|-------|---------|
| rs140963568 | 78170957 | C | G | 1.90E-01 | 0.997 | Imputed |
| rs184241654 | 78177922 | C | T | 1.50E-01 | 0.997 | Imputed |
| rs185627711 | 78182768 | C | T | 1.48E-01 | 0.999 | Imputed |
| rs73231515 | 78191476 | T | G | 6.17E-01 | 0.998 | Imputed |
| rs73231521 | 78213160 | A | G | 9.66E-01 | 0.999 | Imputed |
| rs7881963 | 78219965 | C | T | 3.48E-02 | 0.997 | Imputed |
| rs138941982 | 78220459 | T | C | 6.73E-01 | 0.999 | Imputed |
| rs189091056 | 78222266 | C | T | 6.72E-01 | 0.999 | Imputed |
| rs143329489 | 78224827 | G | A | 7.16E-02 | 0.998 | Imputed |
| rs148329543 | 78230529 | G | A | 8.20E-01 | 0.999 | Imputed |
| rs190657482 | 78231140 | C | A | 7.31E-01 | 0.999 | Imputed |
| rs143659907 | 78234313 | G | A | 4.75E-01 | 0.997 | Imputed |
| rs187331328 | 78238354 | G | A | 7.19E-01 | 0.999 | Imputed |
| rs188340660 | 78239999 | T | A | 8.11E-01 | 0.999 | Imputed |
| rs140070509 | 78250785 | A | C | 5.71E-01 | 0.998 | Imputed |
| rs57129566 | 78255102 | G | A | 2.82E-01 | 0.999 | Imputed |
| rs186812447 | 78255419 | C | T | 2.82E-01 | 0.999 | Imputed |
| rs148171982 | 78255784 | C | G | 4.94E-01 | 0.999 | Imputed |
| rs140760381 | 78258977 | C | T | 5.54E-01 | 0.998 | Imputed |
| rs149665188 | 78265817 | T | C | 3.37E-01 | 0.999 | Imputed |
| rs192353435 | 78266528 | G | C | 2.95E-01 | 0.999 | Imputed |
| rs182740304 | 78274298 | G | A | 3.35E-01 | 0.999 | Imputed |
| rs180734908 | 78275658 | A | T | 2.81E-01 | 0.999 | Imputed |
| rs187254974 | 78276737 | C | G | 1.85E-01 | 1 | Imputed |
| rs185573642 | 78278561 | C | G | 3.33E-01 | 0.999 | Imputed |
| rs191651092 | 78283651 | G | T | 3.14E-01 | 0.999 | Imputed |
| rs148727732 | 78286932 | C | T | 3.13E-01 | 0.999 | Imputed |
| rs187444242 | 78288081 | A | T | 3.13E-01 | 0.999 | Imputed |
| rs72629944 | 78288180 | G | A | 2.52E-01 | 0.998 | Imputed |
| rs190881797 | 78296287 | A | G | 3.19E-01 | 0.999 | Imputed |
| rs147340214 | 78299541 | A | T | 4.57E-02 | 0.999 | Imputed |
| rs73231549 | 78303333 | C | G | 2.43E-01 | 0.999 | Imputed |
| rs185796661 | 78312015 | G | C | 4.34E-02 | 0.999 | Imputed |
| rs146655820 | 78312822 | T | C | 2.00E-01 | 0.996 | Imputed |
| rs188887819 | 78314041 | G | T | 6.80E-01 | 0.999 | Imputed |
| rs62606389 | 78316933 | G | A | 9.00E-01 | 0.992 | Imputed |
| rs190114811 | 78317674 | G | T | 3.16E-01 | 0.999 | Imputed |
| rs181435120 | 78318133 | C | A | 7.10E-01 | 0.998 | Imputed |
| rs190846109 | 78320484 | T | C | 1.56E-01 | 0.999 | Imputed |
| rs185296111 | 78327630 | C | T | 3.24E-01 | 0.999 | Imputed |
| rs182233609 | 78343217 | G | A | 3.44E-01 | 0.999 | Imputed |
| rs34758665 | 78353858 | G | T | 4.67E-01 | 0.999 | Imputed |
| rs5912221 | 78358481 | C | T | 4.10E-01 | 0.997 | Imputed |
| rs190915051 | 78359428 | C | T | 1.64E-01 | 0.999 | Imputed |
| rs73231580 | 78372734 | T | G | 7.50E-02 | 0.998 | Imputed |

Table S2 continued

| | | | | | | |
|-------------|----------|---|---|----------|-------|---------|
| rs147941514 | 78372794 | T | A | 4.35E-01 | 0.999 | Imputed |
| rs187093575 | 78384275 | T | A | 1.81E-01 | 1 | Imputed |
| rs150073320 | 78387464 | G | T | 4.66E-01 | 0.999 | Imputed |
| rs191377591 | 78393529 | A | T | 2.06E-01 | 0.999 | Imputed |
| rs143137690 | 78400383 | A | C | 4.63E-01 | 0.999 | Imputed |
| rs140936915 | 78413332 | G | C | 6.36E-01 | 0.999 | Imputed |
| rs148416472 | 78416649 | T | C | 4.34E-01 | 0.999 | Imputed |
| rs73231593 | 78419050 | A | G | 6.05E-02 | 0.999 | Imputed |
| rs189033609 | 78420636 | A | G | 2.45E-01 | 0.999 | Imputed |
| rs57481284 | 78423568 | T | A | 3.87E-01 | 0.999 | Imputed |
| rs144830132 | 78425210 | T | G | 4.85E-01 | 0.999 | Imputed |
| rs75956723 | 78426987 | C | T | 3.87E-01 | 0.999 | Imputed |
| rs5958866 | 78436002 | T | A | 6.10E-01 | 0.998 | Imputed |
| rs138288213 | 78439522 | C | T | 2.41E-01 | 0.999 | Imputed |
| rs191687323 | 78439541 | A | T | 2.41E-01 | 0.999 | Imputed |
| rs145514745 | 78445635 | A | G | 6.36E-01 | 0.999 | Imputed |
| rs182770538 | 78448112 | G | C | 2.41E-01 | 0.999 | Imputed |
| rs187511107 | 78454007 | A | G | 2.42E-01 | 0.999 | Imputed |
| rs150381154 | 78456901 | T | A | 3.90E-01 | 0.999 | Imputed |
| rs146377235 | 78462805 | G | A | 3.91E-01 | 0.999 | Imputed |
| rs73233212 | 78468118 | G | A | 7.44E-02 | 0.999 | Imputed |
| rs143829941 | 78471626 | G | A | 5.91E-01 | 0.999 | Imputed |
| rs111995577 | 78471674 | G | A | 3.00E-01 | 0.998 | Imputed |
| rs150064797 | 78482697 | A | C | 8.55E-02 | 0.999 | Imputed |
| rs142095275 | 78488882 | C | T | 4.15E-01 | 0.998 | Imputed |
| rs147611325 | 78490443 | A | G | 5.24E-02 | 0.998 | Imputed |
| rs60379437 | 78490817 | A | G | 3.91E-01 | 0.999 | Imputed |
| rs140931888 | 78493650 | G | A | 5.93E-01 | 0.999 | Imputed |
| rs182983019 | 78495759 | A | C | 2.01E-01 | 0.994 | Imputed |
| rs73233247 | 78496560 | A | C | 2.29E-01 | 0.999 | Imputed |
| rs186370278 | 78507296 | A | G | 5.59E-01 | 0.995 | Imputed |
| rs146560034 | 78511843 | T | C | 4.11E-01 | 0.999 | Imputed |
| rs73233250 | 78515145 | G | A | 2.40E-01 | 0.999 | Imputed |
| rs186637862 | 78516085 | C | A | 1.78E-01 | 0.999 | Imputed |
| rs58706188 | 78517078 | T | G | 4.22E-01 | 0.999 | Imputed |
| rs140525813 | 78519240 | C | T | 4.31E-01 | 0.998 | Imputed |
| rs145336014 | 78523438 | A | T | 4.34E-01 | 0.999 | Imputed |
| rs181057281 | 78525563 | A | G | 5.77E-01 | 0.999 | Imputed |
| rs183798512 | 78525813 | A | G | 3.48E-01 | 1 | Imputed |
| rs12012373 | 78536949 | G | A | 4.55E-01 | 0.999 | Imputed |
| rs186641652 | 78539379 | G | A | 1.77E-01 | 0.999 | Imputed |
| rs112855917 | 78543023 | G | A | 4.40E-01 | 0.998 | Imputed |
| rs142181626 | 78543064 | G | C | 4.89E-01 | 0.999 | Imputed |
| rs187291047 | 78552400 | G | T | 7.59E-01 | 0.998 | Imputed |
| rs1736676 | 78554569 | A | T | 1.52E-01 | 0.997 | Imputed |

Table S2 continued

| | | | | | | |
|-----------------|----------|---|----|----------|-------|---------|
| rs1736675 | 78554835 | A | T | 1.50E-01 | 0.997 | Imputed |
| rs6522917 | 78557384 | G | A | 1.52E-01 | 0.997 | Imputed |
| rs1751115 | 78560986 | A | C | 1.65E-01 | 0.997 | Imputed |
| rs112394313 | 78561560 | A | G | 3.90E-01 | 0.998 | Imputed |
| chrX:78563688:I | 78563688 | C | CA | 1.94E-01 | 0.999 | Imputed |
| rs148183187 | 78565266 | G | A | 1.55E-01 | 0.999 | Imputed |
| rs146806132 | 78567066 | C | T | 2.00E-01 | 0.995 | Imputed |
| rs2205808 | 78567988 | A | G | 3.80E-01 | 0.997 | Imputed |
| rs190017058 | 78568337 | A | C | 1.52E-01 | 0.999 | Imputed |
| rs182993003 | 78568372 | T | C | 1.47E-01 | 1 | Imputed |
| rs1736665 | 78569128 | G | A | 1.00E-01 | 0.997 | Imputed |
| rs112425994 | 78571489 | G | A | 4.51E-02 | 0.999 | Imputed |
| rs12008051 | 78575514 | G | A | 4.17E-01 | 0.999 | Imputed |
| rs1622968 | 78575791 | T | A | 1.47E-01 | 0.997 | Imputed |
| rs1008567 | 78576095 | A | G | 1.00E-01 | 0.997 | Imputed |
| rs184964496 | 78580884 | G | A | 4.40E-01 | 0.999 | Imputed |
| rs6652327 | 78588457 | C | T | 2.06E-01 | 0.998 | Imputed |
| rs57119575 | 78589112 | A | G | 2.20E-01 | 0.998 | Imputed |
| rs140034494 | 78590075 | C | T | 3.06E-01 | 0.999 | Imputed |
| rs181268854 | 78590373 | G | T | 3.07E-01 | 0.999 | Imputed |
| rs141000792 | 78590374 | G | T | 2.26E-01 | 0.998 | Imputed |
| rs182816814 | 78595626 | T | C | 9.14E-02 | 0.998 | Imputed |
| rs138773248 | 78595830 | G | C | 2.25E-01 | 0.998 | Imputed |
| rs146063681 | 78600763 | C | T | 2.79E-01 | 0.999 | Imputed |
| rs193235884 | 78604057 | C | T | 1.08E-01 | 0.998 | Imputed |
| rs150405188 | 78607259 | C | A | 6.79E-02 | 0.998 | Imputed |
| rs142652405 | 78607839 | A | T | 6.49E-02 | 0.998 | Imputed |
| rs181375019 | 78617580 | G | A | 1.20E-01 | 0.996 | Imputed |
| rs145573290 | 78619199 | A | G | 5.50E-02 | 0.998 | Imputed |
| rs147509745 | 78621192 | A | G | 4.79E-02 | 0.998 | Imputed |
| rs182270935 | 78629183 | G | T | 2.87E-01 | 1 | Imputed |
| rs142644914 | 78630328 | T | A | 6.00E-01 | 0.999 | Imputed |
| rs186828020 | 78630957 | G | A | 5.00E-01 | 0.998 | Imputed |
| rs12008882 | 78636781 | T | A | 1.09E-01 | 0.997 | Imputed |
| rs55634143 | 78638058 | C | A | 1.09E-01 | 0.997 | Imputed |
| rs7065711 | 78641381 | G | A | 8.96E-02 | 0.998 | Imputed |
| rs16979234 | 78643846 | A | G | 1.21E-01 | 0.997 | Imputed |
| rs73630304 | 78644967 | C | T | 1.23E-01 | 0.997 | Imputed |
| rs144797567 | 78646124 | C | G | 9.12E-02 | 0.998 | Imputed |
| rs141016332 | 78646514 | A | G | 9.11E-02 | 0.998 | Imputed |
| rs143120918 | 78648073 | C | T | 8.92E-02 | 0.998 | Imputed |
| rs185784362 | 78649875 | C | A | 1.30E-01 | 0.999 | Imputed |
| rs7049731 | 78649882 | T | C | 1.20E-01 | 0.997 | Imputed |
| rs12011129 | 78651604 | A | G | 1.18E-01 | 0.997 | Imputed |
| rs12015087 | 78651925 | G | C | 1.17E-01 | 0.997 | Imputed |

Table S2 continued

| | | | | | | |
|-------------|----------|---|---|----------|-------|---------|
| rs12012232 | 78652059 | T | C | 8.49E-02 | 0.998 | Imputed |
| rs7890116 | 78653712 | G | A | 8.41E-02 | 0.998 | Imputed |
| rs7880446 | 78654031 | A | G | 8.39E-02 | 0.998 | Imputed |
| rs181218133 | 78654097 | G | T | 1.31E-01 | 0.999 | Imputed |
| rs67515309 | 78655806 | T | C | 1.16E-01 | 0.997 | Imputed |
| rs55962854 | 78655881 | C | T | 1.16E-01 | 0.997 | Imputed |
| rs144117435 | 78657776 | G | A | 1.17E-01 | 0.999 | Imputed |
| rs55999824 | 78659523 | G | T | 1.20E-01 | 0.997 | Imputed |
| rs116812070 | 78665131 | C | T | 1.19E-01 | 0.999 | Imputed |
| rs55982355 | 78666224 | G | A | 1.29E-01 | 0.997 | Imputed |
| rs182920109 | 78667796 | C | T | 2.87E-01 | 1 | Imputed |
| rs6652734 | 78670461 | G | A | 1.27E-01 | 0.997 | Imputed |
| rs147070784 | 78671405 | G | A | 1.00E-01 | 0.998 | Imputed |
| rs58274731 | 78671810 | T | C | 1.26E-01 | 0.997 | Imputed |
| rs2205675 | 78674839 | C | T | 1.23E-01 | 0.997 | Imputed |
| rs150916921 | 78678879 | C | T | 1.14E-01 | 0.999 | Imputed |
| rs141656198 | 78683164 | C | G | 1.29E-01 | 0.999 | Imputed |
| rs114687936 | 78684111 | C | T | 1.15E-01 | 0.999 | Imputed |
| rs115171060 | 78686069 | T | C | 1.16E-01 | 0.999 | Imputed |
| rs183360582 | 78687339 | C | T | 2.86E-01 | 1 | Imputed |
| rs2411895 | 78687466 | G | A | 1.14E-01 | 0.997 | Imputed |
| rs150455921 | 78698403 | G | C | 6.27E-01 | 0.998 | Imputed |
| rs183114030 | 78718017 | A | T | 8.13E-01 | 0.999 | Imputed |
| rs144758609 | 78720145 | T | C | 4.18E-01 | 0.995 | Imputed |
| rs186204017 | 78720620 | C | A | 4.00E-01 | 0.999 | Imputed |
| rs1588835 | 78737104 | A | G | 2.00E-01 | 0.996 | Imputed |
| rs148470936 | 78778026 | T | A | 1.39E-01 | 0.998 | Imputed |
| rs140163495 | 78786856 | C | A | 1.90E-01 | 0.997 | Imputed |
| rs147109787 | 78803446 | A | T | 4.50E-01 | 0.997 | Imputed |
| rs4590575 | 78806968 | G | T | 4.00E-04 | 0.901 | Imputed |
| rs1554088 | 78827778 | C | A | 3.17E-01 | 0.998 | Imputed |
| rs112702388 | 78848264 | C | T | 1.06E-01 | 0.999 | Imputed |
| rs147010403 | 78856415 | A | G | 4.98E-02 | 0.998 | Imputed |
| rs189901332 | 78875057 | G | A | 2.30E-01 | 0.993 | Imputed |
| rs139958324 | 78875684 | T | A | 4.57E-01 | 0.999 | Imputed |
| rs144926270 | 78876459 | T | A | 4.57E-01 | 0.999 | Imputed |
| rs183851017 | 78876465 | A | G | 4.57E-01 | 0.999 | Imputed |
| rs149516430 | 78878192 | C | G | 4.57E-01 | 0.999 | Imputed |
| rs11798519 | 78881800 | G | A | 3.54E-01 | 0.999 | Imputed |
| rs141216595 | 78885465 | T | A | 5.29E-01 | 0.999 | Imputed |
| rs140904305 | 78886434 | A | T | 5.41E-01 | 0.999 | Imputed |
| rs144579391 | 78904712 | G | A | 9.80E-01 | 0.999 | Imputed |
| rs138649072 | 78917998 | C | T | 3.40E-01 | 0.998 | Imputed |
| rs148000831 | 78922639 | T | A | 2.29E-01 | 0.993 | Imputed |
| rs182189643 | 78926924 | C | T | 8.10E-01 | 0.998 | Imputed |

Table S2 continued

| | | | | | | |
|-------------|----------|---|---|----------|-------|---------|
| rs150556097 | 78935223 | G | T | 9.90E-01 | 0.999 | Imputed |
| rs5958923 | 78950061 | G | A | 2.00E-01 | 0.994 | Imputed |
| rs141274994 | 78979930 | T | C | 4.00E-01 | 0.998 | Imputed |
| rs143133242 | 78988784 | G | A | 6.10E-01 | 0.998 | Imputed |
| rs1000530 | 78124078 | T | C | 4.98E-02 | | Typed |
| rs5912686 | 78191390 | A | G | 3.04E-02 | | Typed |
| rs2858575 | 78203241 | T | G | 7.91E-01 | | Typed |
| rs5959212 | 78219460 | A | G | 2.63E-03 | | Typed |
| rs11799022 | 78246472 | A | C | 3.75E-09 | | Typed |
| rs5912206 | 78279211 | T | C | 3.37E-02 | | Typed |
| rs5959225 | 78299831 | T | C | 1.38E-08 | | Typed |
| rs5912749 | 78353334 | G | A | 1.09E-06 | | Typed |
| rs2411976 | 78383858 | C | T | 1.07E-08 | | Typed |
| rs2411975 | 78395070 | C | A | 6.15E-09 | | Typed |
| rs17317518 | 78402918 | C | T | 3.83E-01 | | Typed |
| rs5912785 | 78420331 | C | T | 5.68E-09 | | Typed |
| rs3827440 | 78426988 | T | C | 5.53E-09 | | Typed |
| rs5959276 | 78496118 | G | T | 3.13E-02 | | Typed |
| rs5912838 | 78497118 | A | C | 1.67E-09 | | Typed |
| rs2411961 | 78508481 | C | T | 1.99E-01 | | Typed |
| rs17324573 | 78520702 | C | A | 1.21E-07 | | Typed |
| rs10521391 | 78522635 | C | T | 2.10E-06 | | Typed |
| rs12012447 | 78544341 | G | A | 7.18E-03 | | Typed |
| rs1736673 | 78559535 | G | T | 3.91E-02 | | Typed |
| rs5912878 | 78565662 | A | G | 2.71E-06 | | Typed |
| rs1736661 | 78576827 | C | T | 8.71E-01 | | Typed |
| rs5959303 | 78586744 | T | G | 5.31E-05 | | Typed |
| rs6619915 | 78587587 | G | A | 5.71E-06 | | Typed |
| rs13441063 | 78587795 | T | C | 1.43E-01 | | Typed |
| rs1736646 | 78596496 | G | A | 7.71E-06 | | Typed |
| rs1751107 | 78601102 | G | A | 2.01E-07 | | Typed |
| rs1751105 | 78604660 | A | G | 3.76E-06 | | Typed |
| rs1040408 | 78609267 | T | C | 6.21E-02 | | Typed |
| rs2056918 | 78629178 | T | C | 3.54E-01 | | Typed |
| rs5912919 | 78644267 | C | A | 4.79E-01 | | Typed |
| rs1474563 | 78649193 | C | T | 2.53E-01 | | Typed |
| rs5959348 | 78670840 | C | A | 2.07E-01 | | Typed |
| rs5959349 | 78671087 | T | G | 2.19E-01 | | Typed |
| rs5912942 | 78679237 | G | A | 4.52E-01 | | Typed |
| rs5959353 | 78683339 | T | C | 4.35E-01 | | Typed |
| rs1120643 | 78734143 | C | T | 7.74E-02 | | Typed |
| rs5958896 | 78761046 | G | A | 1.06E-04 | | Typed |
| rs5912953 | 78773099 | C | T | 3.69E-03 | | Typed |
| rs7059686 | 78806589 | T | C | 1.65E-01 | | Typed |
| rs11796452 | 78810199 | T | C | 1.65E-01 | | Typed |

Table S2 continued

| | | | | | |
|------------|----------|---|---|----------|-------|
| rs5959388 | 78832608 | C | T | 1.10E-03 | Typed |
| rs1353452 | 78848072 | A | C | 1.21E-01 | Typed |
| rs1496186 | 78872882 | C | T | 9.89E-02 | Typed |
| rs12014367 | 78874921 | C | T | 1.79E-01 | Typed |
| rs1496210 | 78882885 | A | G | 7.41E-02 | Typed |
| rs12012345 | 78885537 | G | A | 7.94E-02 | Typed |
| rs5959408 | 78914271 | A | G | 8.09E-02 | Typed |
| rs5958916 | 78929109 | A | C | 7.84E-02 | Typed |
| rs2132476 | 78938976 | T | G | 7.87E-02 | Typed |
| rs1353456 | 78942721 | C | A | 7.08E-02 | Typed |
| rs5913021 | 78944759 | C | T | 1.99E-01 | Typed |
| rs5959428 | 78946422 | G | A | 2.51E-01 | Typed |
| rs7063238 | 78953383 | T | C | 9.07E-01 | Typed |
| rs5912329 | 78956405 | A | G | 3.53E-01 | Typed |
| rs5912331 | 78957027 | C | T | 1.56E-01 | Typed |
| rs1948538 | 78978879 | C | T | 2.96E-01 | Typed |

Table S3. Primers used for quantitative real-time PCR assays of *GPR174* and *GAPDH*

| Genes | Primers | Sequences |
|---------------|---------|----------------------------|
| <i>GPR174</i> | Forward | 5'-TTGCATGACAGCATCCAAC-3' |
| | Reverse | 5'-AAGTTCTTCCCTGTGGCTTG-3' |
| <i>GAPDH</i> | Forward | 5'-AAGGTCGGAGTCAACGGATT-3' |
| | Reverse | 5'-CTCCTGGAAGATGGTGATGG-3' |

Table S4. Primers used for resequencing of *GPR174*

| Fragment | Primers | Sequences |
|-----------------|---------|--------------------------------|
| <i>GPR174_1</i> | Forward | 5'-gtcccagagggccttaaat-3' |
| | Reverse | 5'-TACACAGGCAAGGCAGATGA-3' |
| <i>GPR174_2</i> | Forward | 5'-GCCCTGTGGGTATTCTATGG-3' |
| | Reverse | 5'-CTAGCAAGACACAATGCCACA-3' |
| <i>GPR174_3</i> | Forward | 5'-CCTGTGCAGGGGTATTCCTA-3' |
| | Reverse | 5'-catttctctgaacataaagactca-3' |

Figure S1 Tissue expression patterns of *GPR174* and *GAPDH*. cDNA samples of 15 tissues were from the Human Immune System MTC Panel (spleen, lymph node, thymus, leukocyte, bone marrow and fetal liver) and Human MTC Panel I (heart, brain, placenta, lung, liver, skeletal muscle kidney and pancreas). The cDNA of thyroid was reverse-transcribed from Human Thyroid Total RNA (Clontech). The PCR products were loaded in 3% agarose gel.

