SUPPLEMENTARY MATERIAL to Uhl et al “Smoking quit success genotype score predicts quit success and distinct patterns of developmental involvement with common addictive substances”

Figure S1: Design of the smoking cessation trial. Each of the 50 European-American smokers who achieved continuous abstinence for 11 weeks were matched to 117 smokers who failed to achieve abstinence for genotyping (from total n = 420). Matching was based on race, gender and arm of the study. Participants were enrolled with consent for genotyping, treated with 21 or 42 mg NRT patches, and stratified for subsequent treatment based on reductions in CO levels in end expired air at the end of the first of two weeks of precessation treatment during which participants were instructed that they could smoke freely until the targeted quit date (two weeks after onset of NRT). Numbers of participants who were genotyped came from the 21 mg NRT, 42 mg NRT, 21 mg NRT + bupropion, 42 mg NRT + bupropion, 21 mg NRT then varenicline and 42 mg NRT then varenicline arms as follows: 37, 49, 21, 24, 19 and 19 (note that the first two values come from individuals falling into both groups A1 and A2, below). Mean v1.0 scores were 381, 388, 383, 370, 391 and 390, respectively, displaying no significant differences. Ranges of v1.0 scores from participants who received NRT, bupropion + NRT and NRT then varenicline treatment were 291-470, 312-456 and 307-450, respectively. NRT doses were gradually reduced beginning 4 or 6 weeks after the quit date for the 42 and 21 mg/24 h groups, respectively.

Participants with sleep disturbances removed patches at bedtime and applied new ones upon awakening. Subjects experiencing other symptoms of nicotine toxicity reduced doses until symptoms abated according to the following sequence: reduce morning patch from 21- to 14- to 7 to 0 mg/day, then discontinue the afternoon patch.
Partial results for cessation success enhancement from this adaptive treatment have been reported by Rose and colleagues (Abstracts, Society for Research on Nicotine and Tobacco, 2011).

Figure S2: Design of prevention intervention trial (cohort III) and followup. Seven hundred ninety nine Baltimore first graders in 1993 (cohort III; 6.2 +/- 0.4 years old when entering) were recruited from 27 classrooms in 9 Baltimore elementary schools. 63% qualified for free or reduced price lunch. Participants were group-randomized to control or one of two universal, elementary school-based interventions [25, 26] that targeted improved behavior and school performance as well as subsequent reductions in drug use, antisocial behavior and school failure [27, 28]. Fifty four percent were male, 85% African American and 13% European American.
Participants provided data at a median of nine of ten follow-up attempts that asked questions about drug use from 8th grade until age 24. There was about 20% loss of subjects to follow-up over this time period, but there was not any significant difference in the dropout in different arms of the trial. During follow-up visits in 2007 – 2011, about 80% of participants provided consent for genotyping and blood and/or buccal material for DNA extraction. We present data from these 555 individuals with both clinical information and genotype scores.

FIGURE S3: Probabilities (Y axis) of membership in the two classes most strongly associated with v1.0 scores in individuals in prevention study cohort III (individuals 1 – 555 arrayed on X axis).

A. Class 1. Note that only 3% of participants displayed probabilities between 0.2 and 0.8 of membership in this class.
B. Class 3. Note that only 4.9% of participants displayed probabilities between 0.2 and 0.8 of membership in this class.

Supplementary analyses:

A. There was low correlation between v1.0 scores and a measure of smoking, the heaviness of smoking index assessed at baseline for smoking cessation clinical trial participants (-0.114; Pearson correlation coefficient).

B. There was a low correlation between v1.0 scores and another measure that can predict quit success, reduction in exhaled CO during the first week of precessation NRT for smoking cessation clinical trial participants (0.072 Pearson correlation coefficient between z transformed CO reduction and F1 scores).

C. The area under receiver operating characteristic curve for CO reduction during the first week of precessation NRT in predicting 11 week continuous abstinence was 0.675, similar to the predictive ability of the genotypic v1.0 scores (0.657), even though there was little correlation between these two predictors of quit success.

D. Power for quitter vs nonquitter (n = 50 vs 117 as used in the present report) with differences of 0.1, 0.05, 0.025 and 0.01 using observed mean standard deviation (0.07) from prior studies of smoking cessation success would be 1, 0.99, 0.55 and 0.13, respectively.

E. There were no significant relationships between v1.0 scores and treatment arm (ANOVA F = 2.27, p = .1, power = 0.4), patch dose (ANOVA F=.007, p = 0.93, power
or whether a participant achieved >50% CO reduction during precessation NRT (ANOVA F = 1.25, p = 0.27, power = .19). The v1.0 score predicted abstinence using logistic regression with and without treatment in the model with similar p values (.029 and 0.03, respectively).

F. End-expired air CO measurements from trial participants during screening correlates with screening values on the Fagerstrom Test for Nicotine Dependence (ANOVA F = 12.1, p = 0.006) and Heaviness of Smoking index screening values (ANOVA F = 32.5, p < 0.001).

G. While there was significant overlap at the level of some genes (eg CDH13, see main article), there was only chance overlap of SNPs from the v1.0 score and those identified by tests of several phenotypes in smoker samples using different genotyping platforms 5-7.

H. ROC curves for an unweighted score comprised of the sum of risk alleles provided results that were slightly less significant than those for the v1.0 score in which risk alleles were differentially weighted (AUC = 0.65).

I. In secondary analyses of the association of v1.0 scores with developmental trajectories of substance use, the v1.0 score provided a highly-significant covariate when it was added to two additional analyses: i) a latent class growth LCGA model, or ii) a longitudinal latent class analyses, using M plus.
TABLES S1 – S4

**Table S1**: Characteristics of latent class growth analyses for developmental profiles of use of common addictive substances from ages 14 – 23. Columns list: the number of classes, log likelihood of model fit to data, number of free parameters for each model, Bayesian information content for each model, VLMR ratio test, entropy and frequency of the smallest class in the model. Note that the BLRT was 0 for all models. Based on these data and the desire to model as many classes as sensible, we chose to use a three class model.

| Number classes | Log likelihood | # free param | BIC | VLMRLRT | Entropy | Smallest class freq |
|----------------|----------------|--------------|-----|---------|---------|-------------------|
| 1              | -17323         | 12           | 34726 | n/a     | n/a     | n/a               |
| 2              | -16656         | 15           | 33412 | 0.003   | 0.918   | 0.15              |
| 3              | -16519         | 18           | 33158 | 0.175   | 0.915   | 0.07              |
| 4              | -16382         | 21           | 32904 | 0.009   | 0.894   | 0.04              |
| 5              | -16309         | 24           | 32779 | 0.021   | 0.839   | 0.04              |

**Table S2**: Validation of the prevention study samples. Genomic regions and genes identified by prevention samples overlap with those identified by previously-reported NIDA-MNB research volunteer samples, based on clustered, nominally-significant SNPs. Monte Carlo simulations support $p < 10^{-5}$ for overall overlap of these dependence vs control datasets from these prevention samples and larger, research volunteer samples. These data compare African Americans from prevention and research volunteer samples and display this remarkable overlap of results despite modest differences in the ages (mid 20s vs mid 30s, respectively), gender distribution (more males in the research volunteer group) and dependence (dependence on any addictive substance vs heavy use of and dependence on at least one illegal substance, respectively.
Prevention study samples and interventions: Baltimore first graders in 1985, 1986 and 1993 (cohorts I - III, respectively) were group-randomized to control or preventive interventions intended to improve behavior and school performance that were applied through grades 1 (cohort III) or 1 and 2 (cohorts I and II), as noted above. Participants provided data at a median of six of the eight (Cohorts I and II) and nine of ten (Cohort III) follow-up attempts, including extensive data about substance use, abuse and dependence. Opportunities to use addictive substances of specific classes were assessed contemporaneously at each assessment (cohort III) or retrospectively, seeking lifetime data on opportunities to use, through questions asked at age ca. 18 – 19 (cohorts I and II). DSM diagnoses of substance dependence came from the Diagnostic Interview Schedule (DIS) \(^8\). Nicotine dependence was diagnosed using the Fagerstrom Test for Nicotine Dependence (FTND), with a cut off of \(\geq 6\) \(^9\)\(^\text{-}11\). There was ca 20% loss of subjects to follow-up over this time period.

Substance dependence was diagnosed using DSM and/or FTND criteria in 81 of these African-American study participants. These individuals were matched for gender, age and ethnicity to the 175 African-American controls who reported the most opportunities to use addictive substances but displayed neither dependence, abuse or extensive use of any addictive substance. For each control individual in cohort III, we summed the times that the subject responded “yes” to questions about opportunities to use substances of each class during their follow-up assessments. For each individual in cohorts I and II, we summed the times that the subject responded “yes” to questions about retrospective opportunities to use substances in each class during the age 18/19 assessment.

Comparison research volunteer sample for assessments of substance dependence: Results from these prevention study subjects were compared to data from ethnically-matched MNB research volunteers who provided informed consents, ethnicity data, drug
use histories and DSMIII-R or IV diagnoses, or control histories. DNA from 35 and 12 pools sampled 700 “abusers” with DSMIII-R/IV dependence on at least one illegal abused substance and 240 “controls” who reported no significant lifetime use of any addictive substance, respectively.

**Analyses:** SNPs that displayed $\chi^2$ statistics with $p < 0.05$ for differences between prevention study substance dependent vs control individuals often clustered so that at least four of these nominally-significant SNPs lay within 10 kb of each other (average distances between nominally-significant SNP was about 3 kb). We focus our preplanned analyses on the chromosomal regions and genes identified by these clusters of nominally-significant SNPs in these samples that overlap with those identified, using the same criteria, in 1M SNP studies of DNA pools from NIDA MNB African American research volunteers. We compared the chromosomal regions that were identified by clustered, nominally-positive SNPs from both samples to those identified by chance in random Monte Carlo trials. Each Monte Carlo trial began with random sets of SNPs of the same sizes as those identified by the true data in each sample. For each trial, the random set of SNPs was assessed to see if it provided results equal to or greater than the results that we actually observed. The number of trials for which the randomly-selected SNPs displayed (at least) the same features displayed by the observed results was then tallied to generate an empirical p value for each region. These simulations, not corrected for multiple comparisons, test the null hypothesis that the results from the prevention and research volunteer samples identify the same chromosomal regions at the rates expected by chance.

| # p < 5 x 10^{-2} |
|-------------------|
| SNPs              |
| ch               | bp:start | bp: stop | Prevention MNB | gene(s) | p region |


| Gene       | Start | End   | Start Position | End Position | p-Value |
|------------|-------|-------|----------------|--------------|---------|
| ATF6       | 1     | 4     | 160191373      | 160202745    | 0.0177  |
| ASTN1      | 1     | 4     | 175396660      | 175414782    | 0.0248  |
| ASTN1, FAM5B | 1 | 17   | 180378729      | 180451983    | 0.0025  |
| LRRN2      | 1     | 5     | 202827613      | 202856667    | 0.0062  |
| SLC35F3    | 1     | 4     | 2312160317     | 232175256    | 0.0142  |
| RGS7       | 1     | 7     | 18512168       | 18552016     | 0.0072  |
| KLHL29     | 2     | 4     | 23512565       | 23535429     | 0.0243  |
| SLC3A1     | 2     | 9     | 40203135       | 40231274     | 0.0227  |
| KLHL29     | 2     | 11    | 52116162       | 52119167     | 0.0282  |
| PARD3B     | 2     | 4     | 102465003      | 102470720    | 0.0229  |
| CHL1       | 3     | 4     | 342757         | 362699       | 0.0183  |
| ITPR1      | 3     | 6     | 4703008        | 4726802      | 0.0243  |
| FHIT       | 3     | 21    | 59953952       | 60014051     | 0.0050  |
| KALRN      | 3     | 7     | 125407985      | 125429920    | 0.0100  |
| CLSTN2     | 3     | 5     | 133258006      | 133274974    | 0.0248  |
| PBX2P1     | 3     | 7     | 14384755       | 144408513    | 0.0040  |
| SST        | 3     | 5     | 188867480      | 188880377    | 0.0193  |
| ADCY2      | 5     | 7     | 75911237       | 7618466      | 0.0064  |
| GCC5       | 5     | 8     | 31255762       | 3150123      | 0.0142  |
| SST        | 5     | 5     | 122557150      | 122592530    | 0.0116  |
| SAC3       | 5     | 4     | 123654964      | 12366386     | 0.0248  |
| STK32A     | 5     | 5     | 146670562      | 146709155    | 0.0100  |
|   | 146736071 | 146771949 | 5 | 6 | DPYSL3 | 0.0140 |
|---|-----------|-----------|---|---|--------|--------|
| 5 | 157948815 | 157985228 | 7 | 4 |        | 0.0130 |
| 5 | 160128669 | 160151601 | 11 | 6 | ATP10B | 0.0049 |
| 6 | 687311    | 700033    | 4 | 4 |        | 0.0248 |
| 6 | 804115    | 831884    | 4 | 6 |        | 0.0245 |
| 6 | 2734370   | 2755888   | 4 | 4 | WRNIP1 | 0.0282 |
| 6 | 4663878   | 4676575   | 5 | 6 | CDYL   | 0.0106 |
| 6 | 23883209  | 23906003  | 8 | 5 |        | 0.0088 |
| 6 | 37616607  | 37635955  | 4 | 5 | FLJ45825 | 0.0236 |
| 6 | 39200945  | 39214254  | 7 | 5 |        | 0.0100 |
| 6 | 117353122 | 117403717 | 4 | 19| RFXDC1 | 0.0030 |
| 6 | 119898516 | 119914369 | 4 | 7 |        | 0.0222 |
| 6 | 162655871 | 162660096 | 4 | 6 | PARK2  | 0.0201 |
| 7 | 9177036   | 9190246   | 4 | 7 |        | 0.0205 |
| 7 | 13284537  | 13295146  | 5 | 4 |        | 0.0177 |
| 7 | 15445209  | 15469838  | 9 | 4 | TMEM195 | 0.0095 |
| 7 | 19339741  | 19366356  | 4 | 10|        | 0.0223 |
| 7 | 28655263  | 28671580  | 4 | 5 | CREB5  | 0.0236 |
| 7 | 32173701  | 32195183  | 4 | 4 |        | 0.0282 |
| 7 | 35470724  | 35503030  | 5 | 6 |        | 0.0134 |
| 7 | 38064580  | 38078323  | 4 | 4 |        | 0.0248 |
| 7 | 42467012  | 42491390  | 4 | 8 |        | 0.0232 |
| 7 | 46759527  | 46782062  | 8 | 5 |        | 0.0088 |
| 7 | 46905831  | 46937852  | 10 | 6 |        | 0.0054 |
| 7 | 54893891  | 54918376  | 5 | 5 |        | 0.0151 |
| 7 | 77135477  | 77152754  | 4 | 7 |        | 0.0222 |
| 7 | 111888889 | 111896959 | 4 | 5 | IFRD1  | 0.0214 |
| 7 | 140653479 | 140663829 | 5 | 5 |        | 0.0136 |
| 8 | 3056359   | 3094761   | 11 | 12| CSMD1  | 0.0019 |
| 8 | 4786988   | 4811413   | 5 | 5 | CSMD1  | 0.0151 |
| 8 | 6238342   | 6274083   | 4 | 7 | MCPH1  | 0.0281 |
| 8 | 15283611  | 15322656  | 9 | 8 |        | 0.0050 |
| 8 | 15692048  | 15713201  | 4 | 5 |        | 0.0251 |
| 8 | 18393182  | 18423793  | 4 | 6 |        | 0.0262 |
| 8 | 21493077  | 21505860  | 4 | 7 |        | 0.0205 |
| 8 | 32199213  | 32226757  | 9 | 4 | NRG1   | 0.0098 |
| 8 | 54269163  | 54299512  | 5 | 4 |        | 0.0216 |
| 8 | 56198701  | 56221035  | 5 | 4 | XKR4   | 0.0200 |
| 8 | 115903803 | 115922272 | 6 | 5 |        | 0.0117 |
| 8 | 129235452 | 129267085 | 5 | 5 |        | 0.0165 |
| 8 | 131870682 | 131915474 | 11 | 6| ADCY8  | 0.0055 |
| 8 | 132476142 | 132507111 | 8 | 5 |        | 0.0108 |
| 8 | 135691115 | 135715753 | 9 | 6 | ZFAT1  | 0.0059 |
| 8 | 4010629   | 4025710   | 5 | 5 | GLIS3  | 0.0142 |
| 9 | 8164345   | 8188199   | 8 | 4 |        | 0.0111 |
| 9 | 16733441  | 16743455  | 7 | 5 | BNC2   | 0.0087 |
| 9 | 82292729  | 82324088  | 6 | 6 |        | 0.0111 |
| 9 | 98548498  | 98565308  | 10 | 5| ZNF510 | 0.0057 |
| 9 | 105667384 | 105678132 | 5 | 5 |        | 0.0136 |
| 9 | 109401821 | 109408916 | 5 | 6 |        | 0.0110 |
| 9 | 117343285 | 117355509 | 4 | 4 |        | 0.0248 |
| 9 | 121554837 | 121570015 | 4 | 4 |        | 0.0248 |
| 10| 2326924   | 2339357   | 4 | 4 |        | 0.0248 |
| 10| 4335886   | 4351265   | 6 | 5 |        | 0.0117 |
| 10 | 17037713 | 17086575 | 7 | 11 | CUBN | 0.0050 |
| 10 | 24820930 | 24847103 | 4 | 6 | KIAA1217 | 0.0245 |
| 10 | 25794787 | 25824558 | 6 | 5 | GPR158 | 0.0128 |
| 10 | 36514828 | 36526506 | 4 | 4 |  | 0.0248 |
| 10 | 54320949 | 54350408 | 4 | 4 |  | 0.0282 |
| 10 | 72016066 | 72025812 | 4 | 4 | PRF1 | 0.0229 |
| 10 | 80586387 | 80607803 | 5 | 4 |  | 0.0200 |
| 10 | 89418974 | 89472813 | 16 | 7 | PAPSS2 | 0.0040 |
| 10 | 97313525 | 97362549 | 10 | 11 | ALDH1A1, SORBS1 | 0.0030 |
| 10 | 100126973 | 100149126 | 7 | 5 | C10orf33 | 0.0097 |
| 10 | 106028196 | 106081085 | 4 | 13 | KIAA1754 | 0.0065 |
| 10 | 118416353 | 118480052 | 16 | 10 | C10orf82, HSPA12A | 0.0020 |
| 11 | 1576943 | 1607115 | 8 | 5 | KRTAP5-3, KRTAP5-5 | 0.0108 |
| 11 | 11122049 | 11147986 | 5 | 7 |  | 0.0100 |
| 11 | 11346019 | 11359653 | 4 | 6 | GALNTL4 | 0.0211 |
| 11 | 35319654 | 35343994 | 5 | 8 | SLC1A2 | 0.0093 |
| 11 | 36686399 | 36707703 | 7 | 6 |  | 0.0079 |
| 11 | 57549133 | 57568460 | 8 | 5 | OR6Q1, VN2R9P | 0.0087 |
| 11 | 78889654 | 78910751 | 5 | 4 |  | 0.0200 |
| 11 | 87925679 | 87929030 | 6 | 4 | GRM5 | 0.0127 |
| 11 | 88095026 | 88111682 | 4 | 5 | GRM5 | 0.0236 |
| 11 | 88183404 | 88207021 | 4 | 7 | GRM5 | 0.0236 |
| 11 | 90003835 | 90024933 | 5 | 4 |  | 0.0200 |
| 11 | 117507582 | 117535296 | 9 | 4 | SCN2B, SCN4B | 0.0098 |
| 11 | 120201507 | 120227667 | 6 | 4 | GRIK4 | 0.0163 |
| 12 | 5954452 | 5975760 | 4 | 5 | VWF | 0.0251 |
| 12 | 28063014 | 28074553 | 12 | 5 |  | 0.0033 |
| 12 | 53644958 | 53704649 | 26 | 7 | KIAA0748 | 0.0005 |
| 12 | 80315592 | 80341556 | 6 | 4 | PPFIA2 | 0.0163 |
| 12 | 102769996 | 102815351 | 22 | 6 |  | 0.0006 |
| 12 | 114214545 | 114265105 | 6 | 7 |  | 0.0075 |
| 12 | 114523726 | 114549440 | 11 | 5 |  | 0.0056 |
| 12 | 127467828 | 127500575 | 4 | 9 |  | 0.0240 |
| 12 | 128793865 | 128819117 | 13 | 4 | TMEM132D | 0.0048 |
| 13 | 21194721 | 21221683 | 8 | 4 |  | 0.0123 |
| 13 | 25981865 | 25995235 | 4 | 4 |  | 0.0248 |
| 13 | 27864067 | 27892655 | 10 | 4 | FLT1 | 0.0080 |
| 13 | 30208972 | 30225032 | 9 | 4 | ALOX5AP | 0.0089 |
| 13 | 60305634 | 60313485 | 5 | 5 |  | 0.0131 |
| 13 | 64463933 | 64482043 | 6 | 6 |  | 0.0093 |
| 13 | 84440888 | 84464746 | 11 | 4 |  | 0.0069 |
| 13 | 92898354 | 92910211 | 4 | 4 | GPC6, TRAV12-1, TRAV13-1, TRAV8-3, TRA@ | 0.0248 |
| 14 | 24189400 | 24224413 | 13 | 5 |  | 0.0040 |
| 14 | 33309047 | 33228583 | 5 | 4 | NPAS3 | 0.0177 |
| 14 | 57540518 | 57563968 | 6 | 5 | C14orf37 | 0.0149 |
| 14 | 60991294 | 61031660 | 10 | 13 | PRKCH | 0.0028 |
| 14 | 68068686 | 68082222 | 5 | 4 | RAD51L1 | 0.0177 |
| 14 | 96487821 | 96499623 | 5 | 4 |  | 0.0177 |
| 15 | 28063745 | 28078024 | 6 | 4 |  | 0.0142 |
| 15 | 52142632 | 52164106 | 8 | 4 | UNC13C | 0.0111 |
| 15 | 77684874 | 77701881 | 5 | 4 |  | 0.0183 |
| 15 | 90348062 | 90370961 | 8 | 6 | SLCO3A1 | 0.0070 |
| 16 | 6285925 | 6343776 | 15 | 4 | A2BP1 | 0.0070 |
| Chr | Gene      | Start    | End      | Length  | Expression |
|-----|-----------|----------|----------|---------|------------|
| 16  | A2BP1     | 6604055  | 6622204  | 4839     | 0.0183     |
| 16  | A2BP1     | 6695415  | 6722737  | 6722     | 0.0245     |
| 16  | A2BP1     | 7640614  | 7673810  | 3336     | 0.0111     |
| 16  | KIAA1576  | 6622204  | 6695415  | 7333     | 0.0108     |
| 16  | WWOX      | 5708937  | 5708937  | 4        | 0.0236     |
| 16  | DYNLRB2   | 5791277  | 5791277  | 4        | 0.0087     |
| 16  | A2BP1     | 79953788 | 79990571 | 3684     | 0.0281     |
| 16  | CDH13     | 81258834 | 81284585 | 2671     | 0.0064     |
| 16  | CDH13     | 81364154 | 81394958 | 3003     | 0.0040     |
| 16  | CDH13     | 81820098 | 81868770 | 4772     | 0.0050     |
| 16  | CDH13     | 84693857 | 84943714 | 2467     | 0.0254     |
| 17  | OR3A4     | 3154169  | 3161719  | 7516     | 0.0062     |
| 17  | GAS7      | 9910218  | 9948656  | 3848     | 0.0307     |
| 17  | FLJ45455  | 11199762 | 11216770 | 1702     | 0.0114     |
| 17  | KRT32, KRT38 | 36844906 | 36884548 | 3964     | 0.0025     |
| 18  | ENOSF1, TYMS | 652370   | 674766   | 2246     | 0.0111     |
| 18  | MYOM1     | 3209215  | 3219023  | 9884     | 0.0105     |
| 18  | L3MBTL4   | 5950673  | 5966903  | 16264    | 0.0236     |
| 18  | ELP2, SLC39A6 | 31933579 | 31955587 | 2220     | 0.0111     |
| 18  | TCF4      | 51199883 | 51218182 | 1899     | 0.0104     |
| 18  | ZNF516    | 72289304 | 72313005 | 1371     | 0.0282     |
| 18  | EMR4      | 74013910 | 74023976 | 1066     | 0.0177     |
| 19  | KRT32, KRT38 | 6926998  | 6933336  | 6338     | 0.0214     |
| 20  | SLC39A6   | 8063957  | 8098408  | 3451     | 0.0174     |
| 20  | PAK7      | 9573787  | 9597288  | 13511    | 0.0075     |
| 20  | SPTLC3    | 12924151 | 12938482 | 1431     | 0.0101     |
| 20  | MACROD2   | 15409635 | 15424726 | 1692     | 0.0126     |
| 20  | OTOR      | 16679408 | 16695738 | 1831     | 0.0236     |
| 20  | BFP1, RPS27AP2 | 17421671 | 17446930 | 2529     | 0.0062     |
| 20  | BFSP1     | 40034283 | 40045102 | 1030     | 0.0177     |
| 20  | RPS27AP2  | 52138031 | 52170007 | 3896     | 0.0131     |
| 21  | MACROD2   | 24988736 | 25031874 | 4438     | 0.0117     |
| 22  | SEZ6L     | 24957142 | 25011209 | 5927     | 0.0045     |
| 22  | BFSP1     | 25094638 | 25131527 | 4759     | 0.0130     |
| 22  | PRR5      | 31884373 | 31896587 | 1224     | 0.0223     |
| 22  | MACROD2   | 32912694 | 32943347 | 1253     | 0.0083     |
| 22  | BFP1, RPS27AP2 | 43494161 | 43512004 | 1641     | 0.0144     |
| 22  | BFP1      | 48459258 | 48481837 | 1280     | 0.0282     |
Table S3: v1.0 SNPs. Columns list rs SNP designator, chromosome, basepair, allele associated with abstinence, and weight for the SNP in contributing to the v1.0 score.

| rs          | chr | bp     | quit allele | weight |
|-------------|-----|--------|-------------|--------|
| rs2281173   | 1   | 1678052| G           | 0.01368|
| rs41477744  | 1   | 2319424| A           | 0.00449|
| rs7525173   | 1   | 2986056| G           | 0.00328|
| rs17398063  | 1   | 3162562| A           | 0.00143|
| rs1181889   | 1   | 3660887| G           | 0.01408|
| rs3856168   | 1   | 4016464| G           | 0.00059|
| rs7529853   | 1   | 4032742| G           | 0.00759|
| rs12042555  | 1   | 4358909| T           | 0.01567|
| rs1870506   | 1   | 4360565| G           | 0.00057|
| rs4654433   | 1   | 4381492| T           | 0.01075|
| rs4654606   | 1   | 4758268| G           | 0.00368|
| rs11805663  | 1   | 4806218| A           | 0.00234|
| rs2169089   | 1   | 4988477| C           | 0.01275|
| rs6681359   | 1   | 5100592| T           | 0.00333|
| rs4076635   | 1   | 5130606| A           | 0.00574|
| rs648378    | 1   | 5225784| G           | 0.00619|
| rs11576458  | 1   | 5398168| C           | 0.00619|
| rs11576460  | 1   | 5398185| C           | 0.00203|
| rs1695629   | 1   | 5640603| C           | 0.00648|
| rs1695628   | 1   | 5641161| A           | 0.01016|
| rs811284    | 1   | 5662225| T           | 0.00457|
| rs17429690  | 1   | 5736722| G           | 0.00285|
| rs4845825   | 1   | 5827331| C           | 0.01516|
| rs1476047   | 1   | 7234759| C           | 0.00013|
| rs11120894  | 1   | 7263431| G           | 0.01447|
| rs1309332   | 1   | 7475048| G           | 0.00449|
| rs226473    | 1   | 7931555| G           | 0.01380|
| rs225100    | 1   | 7989501| T           | 0.00188|
| rs12136685  | 1   | 8114379| C           | 0.00783|
| rs6701941   | 1   | 8191302| G           | 0.01088|
| rs11121182  | 1   | 8445140| T           | 0.00107|
| rs10864363  | 1   | 8689898| T           | 0.00273|
| rs4908526   | 1   | 9025544| G           | 0.00289|
| rs17377597  | 1   | 9304069| G           | 0.01208|
| rs1294055   | 1   | 9304621| A           | 0.00697|
| rs564709    | 1   | 9304872| C           | 0.01065|
| rs926247    | 1   | 9316595| G           | 0.00806|
| rs2890358   | 1   | 9950127| A           | 0.01006|
| SNP          | MAF | Position   | Allele | p-value  |
|--------------|-----|------------|--------|----------|
| rs11121543   | 1   | 10326770   | A      | 0.00115  |
| rs11121594   | 1   | 10549509   | G      | 0.01454  |
| rs6687502    | 1   | 10555860   | G      | 0.01521  |
| rs539790     | 1   | 10810510   | A      | 0.01080  |
| rs1057079    | 1   | 11127645   | A      | 0.00050  |
| rs2379161    | 1   | 11442367   | T      | 0.00436  |
| rs198404     | 1   | 11819414   | A      | 0.00050  |
| rs3766735    | 1   | 12117332   | A      | 0.00397  |
| rs17423806   | 1   | 12363507   | A      | 0.00956  |
| rs3000873    | 1   | 12692907   | T      | 0.01227  |
| rs3856278    | 1   | 13732157   | G      | 0.00038  |
| rs2990672    | 1   | 13791216   | G      | 0.01527  |
| rs17390405   | 1   | 13821674   | T      | 0.00511  |
| rs7545744    | 1   | 14361606   | A      | 0.01574  |
| rs6692603    | 1   | 14367357   | T      | 0.00687  |
| rs10489144   | 1   | 14367590   | C      | 0.01018  |
| rs10489143   | 1   | 14368482   | C      | 0.00197  |
| rs12145446   | 1   | 14790404   | G      | 0.01341  |
| rs1543362    | 1   | 14791672   | C      | 0.00331  |
| rs2486778    | 1   | 14793530   | C      | 0.00815  |
| rs6690379    | 1   | 14834248   | A      | 0.00629  |
| rs1965402    | 1   | 15190986   | T      | 0.00927  |
| rs529587     | 1   | 15302815   | G      | 0.01509  |
| rs7539166    | 1   | 15368492   | C      | 0.01170  |
| rs10927744   | 1   | 15439286   | A      | 0.00715  |
| rs2020902    | 1   | 15706947   | T      | 0.00618  |
| rs6429753    | 1   | 15773124   | A      | 7.09600  |
| rs6696286    | 1   | 15841357   | C      | 0.01226  |
| rs12082523   | 1   | 15878379   | G      | 8.20600  |
| rs10887994   | 1   | 17244342   | G      | 0.00513  |
| rs7536679    | 1   | 17247250   | G      | 0.00974  |
| rs7545518    | 1   | 17247329   | G      | 0.01214  |
| rs2295053    | 1   | 17273681   | C      | 0.00959  |
| rs1408953    | 1   | 17751206   | A      | 0.00272  |
| rs11203233   | 1   | 18113284   | T      | 0.00254  |
| rs2355459    | 1   | 18222351   | T      | 0.00473  |
| rs12724674   | 1   | 18304088   | T      | 0.01459  |
| rs10907298   | 1   | 18436270   | C      | 0.00964  |
| rs1414642    | 1   | 18660033   | A      | 0.00248  |
| rs2745318    | 1   | 18768431   | C      | 0.00620  |
| rs4076925    | 1   | 18985613   | C      | 0.01623  |
| rs4911974    | 1   | 19315095   | C      | 0.01592  |
| rs6662273    | 1   | 19613410   | A      | 0.00951  |
| rs            | chrom | pos   | ref | alt | p    |
|---------------|--------|-------|-----|-----|------|
| rs3929668     | 1      | 19924960 | A   |     | 0.00164 |
| rs6426624     | 1      | 20445225 | T   |     | 0.00968 |
| rs12741740    | 1      | 20671182 | T   |     | 0.00636 |
| rs1253885     | 1      | 20759354 | G   |     | 0.00106 |
| rs535696      | 1      | 20893785 | C   |     | 0.01650 |
| rs6702859     | 1      | 20904570 | C   |     | 0.01409 |
| rs875015      | 1      | 20906226 | G   |     | 0.00636 |
| rs6426645     | 1      | 20907736 | T   |     | 0.01070 |
| rs637990      | 1      | 20920203 | A   |     | 0.00165 |
| rs12123092    | 1      | 20939588 | A   |     | 0.00982 |
| rs1021077     | 1      | 20978603 | G   |     | 0.00762 |
| rs3856173     | 1      | 20987420 | T   |     | 0.01037 |
| rs4654874     | 1      | 21029254 | T   |     | 0.00305 |
| rs4654887     | 1      | 21107510 | A   |     | 0.01357 |
| rs6700718     | 1      | 21171950 | A   |     | 0.01238 |
| rs6659152     | 1      | 21228428 | G   |     | 0.00220 |
| rs1354792     | 1      | 21264462 | C   |     | 0.01048 |
| rs4654899     | 1      | 21282818 | T   |     | 0.00528 |
| rs12402486    | 1      | 21320522 | A   |     | 0.00794 |
| rs6702110     | 1      | 21388493 | G   |     | 0.00017 |
| rs6680566     | 1      | 22101677 | T   |     | 0.01070 |
| rs4233289     | 1      | 22663042 | G   |     | 0.01481 |
| rs3754010     | 1      | 22709086 | T   |     | 0.00810 |
| rs209722      | 1      | 22716015 | T   |     | 0.01651 |
| rs209705      | 1      | 22807231 | A   |     | 0.00457 |
| rs12722729    | 1      | 22854653 | A   |     | 0.00429 |
| rs6424106     | 1      | 24771040 | G   |     | 0.00025 |
| rs6687818     | 1      | 24774585 | A   |     | 0.00699 |
| rs9328948     | 1      | 24790043 | C   |     | 0.01255 |
| rs3131502     | 1      | 24939035 | G   |     | 0.00805 |
| rs1890449     | 1      | 24948388 | G   |     | 0.00484 |
| rs2744785     | 1      | 25904621 | C   |     | 0.00587 |
| rs807262      | 1      | 25953638 | A   |     | 0.00282 |
| rs11805628    | 1      | 27257576 | G   |     | 0.00749 |
| rs2808419     | 1      | 27892967 | G   |     | 0.00385 |
| rs1474908     | 1      | 28085800 | C   |     | 0.00009 |
| rs4908393     | 1      | 28423035 | A   |     | 0.01124 |
| rs9508        | 1      | 28436866 | G   |     | 0.00703 |
| rs576550      | 1      | 28439195 | A   |     | 0.01659 |
| rs2319403     | 1      | 29493343 | C   |     | 0.00258 |
| rs1062921     | 1      | 29525262 | T   |     | 0.01438 |
| rs4078312     | 1      | 29688232 | A   |     | 0.00117 |
| rs12141268    | 1      | 29948179 | G   |     | 0.01536 |
| rs6691847     | 1      | 30038239 | T   |     | 0.00410 |
| SNP          | ID     | Position | Allele | p-value |
|--------------|--------|----------|--------|---------|
| rs10798897   | 1      | 30091340 | A      | 0.00943 |
| rs267665     | 1      | 30318309 | G      | 0.01207 |
| rs1321117    | 1      | 30400206 | T      | 0.01223 |
| rs976190     | 1      | 30435437 | G      | 0.00492 |
| rs10915041   | 1      | 30438106 | C      | 0.1439  |
| rs1188418    | 1      | 30917979 | C      | 0.1108  |
| rs10798817   | 1      | 31236168 | T      | 0.01366 |
| rs657200     | 1      | 30600394 | A      | 0.01145 |
| rs941518     | 1      | 30445358 | C      | 0.00030 |
| rs1321117    | 1      | 30400206 | T      | 0.01223 |
| rs976190     | 1      | 30435437 | G      | 0.00492 |
| rs10915041   | 1      | 30438106 | C      | 0.1439  |
| rs1188418    | 1      | 30917979 | C      | 0.1108  |
| rs10798817   | 1      | 31236168 | T      | 0.01366 |
| rs657200     | 1      | 30600394 | A      | 0.01145 |
| rs941518     | 1      | 30445358 | C      | 0.00030 |
| rs1321117    | 1      | 30400206 | T      | 0.01223 |
| rs976190     | 1      | 30435437 | G      | 0.00492 |
| rs10915041   | 1      | 30438106 | C      | 0.1439  |
| rs1188418    | 1      | 30917979 | C      | 0.1108  |
| rs10798817   | 1      | 31236168 | T      | 0.01366 |
| rs657200     | 1      | 30600394 | A      | 0.01145 |
| rs941518     | 1      | 30445358 | C      | 0.00030 |
| rs1321117    | 1      | 30400206 | T      | 0.01223 |
| rs976190     | 1      | 30435437 | G      | 0.00492 |
| rs10915041   | 1      | 30438106 | C      | 0.1439  |
| rs1188418    | 1      | 30917979 | C      | 0.1108  |
| rs10798817   | 1      | 31236168 | T      | 0.01366 |
| rs657200     | 1      | 30600394 | A      | 0.01145 |
| rs941518     | 1      | 30445358 | C      | 0.00030 |
| rs1321117    | 1      | 30400206 | T      | 0.01223 |
| rs976190     | 1      | 30435437 | G      | 0.00492 |
| rs10915041   | 1      | 30438106 | C      | 0.1439  |
| rs1188418    | 1      | 30917979 | C      | 0.1108  |
| rs10798817   | 1      | 31236168 | T      | 0.01366 |
| rs657200     | 1      | 30600394 | A      | 0.01145 |
| rs941518     | 1      | 30445358 | C      | 0.00030 |
| rs1321117    | 1      | 30400206 | T      | 0.01223 |
| rs976190     | 1      | 30435437 | G      | 0.00492 |
| rs10915041   | 1      | 30438106 | C      | 0.1439  |
| rs1188418    | 1      | 30917979 | C      | 0.1108  |
| rs10798817   | 1      | 31236168 | T      | 0.01366 |
| rs657200     | 1      | 30600394 | A      | 0.01145 |
| rs941518     | 1      | 30445358 | C      | 0.00030 |
| SNP        | Allele | Chromosome | Base Position | Start Position | End Position | Major Allele | Minor Allele | P-Value |
|------------|--------|------------|---------------|----------------|--------------|--------------|--------------|---------|
| rs914961   | 1      | 1          | 40015032      | T              | 40015032     | 0.00638      |             |         |
| rs1974206  | 1      | 1          | 40081505      | C              | 40081505     | 0.00703      |             |         |
| rs927961   | 1      | 1          | 41081505      | C              | 41081505     | 0.00728      |             |         |
| rs4660527  | 1      | 1          | 41594366      | G              | 41594366     | 0.00852      |             |         |
| rs7519983  | 1      | 1          | 41855956      | C              | 41855956     | 0.00291      |             |         |
| rs11210537 | 1      | 1          | 42118310      | A              | 42118310     | 0.00640      |             |         |
| rs642112   | 1      | 1          | 4225904       | C              | 4225904      | 0.00528      |             |         |
| rs10890176 | 1      | 1          | 42276537      | A              | 42276537     | 0.00741      |             |         |
| rs17377240 | 1      | 1          | 42496837      | G              | 42496837     | 0.00168      |             |         |
| rs16829690 | 1      | 1          | 42793281      | C              | 42793281     | 0.00138      |             |         |
| rs323720   | 1      | 1          | 43043620      | A              | 43043620     | 0.01476      |             |         |
| rs9326136  | 1      | 1          | 44162979      | A              | 44162979     | 0.00679      |             |         |
| rs12561948 | 1      | 1          | 44168783      | A              | 44168783     | 0.00928      |             |         |
| rs2486013  | 1      | 1          | 44192835      | T              | 44192835     | 0.00083      |             |         |
| rs7412307  | 1      | 1          | 44206451      | G              | 44206451     | 0.00559      |             |         |
| rs270724   | 1      | 1          | 44763865      | G              | 44763865     | 0.01596      |             |         |
| rs12749130 | 1      | 1          | 45220386      | C              | 45220386     | 0.00116      |             |         |
| rs2997465  | 1      | 1          | 45414041      | A              | 45414041     | 0.00936      |             |         |
| rs785495   | 1      | 1          | 46360474      | G              | 46360474     | 0.00340      |             |         |
| rs3855959  | 1      | 1          | 46406461      | T              | 46406461     | 0.00517      |             |         |
| rs956527   | 1      | 1          | 46828579      | C              | 46828579     | 0.00113      |             |         |
| rs611468   | 1      | 1          | 46897066      | A              | 46897066     | 0.00010      |             |         |
| rs2065996  | 1      | 1          | 47047828      | T              | 47047828     | 0.00633      |             |         |
| rs4926559  | 1      | 1          | 47744233      | G              | 47744233     | 0.00219      |             |         |
| rs11211546 | 1      | 1          | 47764798      | C              | 47764798     | 0.00963      |             |         |
| rs623229   | 1      | 1          | 47799654      | A              | 47799654     | 0.00437      |             |         |
| rs4927198  | 1      | 1          | 48135868      | C              | 48135868     | 0.00515      |             |         |
| rs17104537 | 1      | 1          | 48819755      | A              | 48819755     | 0.00012      |             |         |
| rs320017   | 1      | 1          | 48897066      | T              | 48897066     | 0.00117      |             |         |
| rs319999   | 1      | 1          | 48896294      | G              | 48896294     | 0.00412      |             |         |
| rs1078896  | 1      | 1          | 49089826      | A              | 49089826     | 0.01146      |             |         |
| rs4926853  | 1      | 1          | 50481809      | A              | 50481809     | 0.00246      |             |         |
| rs3789586  | 1      | 1          | 50826910      | A              | 50826910     | 0.00394      |             |         |
| rs2083078  | 1      | 1          | 50839538      | A              | 50839538     | 0.01626      |             |         |
| rs2244262  | 1      | 1          | 52149357      | C              | 52149357     | 0.01534      |             |         |
| rs10493166 | 1      | 1          | 52669983      | A              | 52669983     | 0.00667      |             |         |
| rs17108402 | 1      | 1          | 53618841      | C              | 53618841     | 0.01152      |             |         |
| rs9700109  | 1      | 1          | 53781964      | A              | 53781964     | 0.01472      |             |         |
| rs11206279 | 1      | 1          | 54291746      | C              | 54291746     | 0.00893      |             |         |
| rs4927088  | 1      | 1          | 54547791      | C              | 54547791     | 0.00962      |             |         |
| rs11206329 | 1      | 1          | 54550150      | T              | 54550150     | 0.01115      |             |         |
| rs2289015  | 1      | 1          | 54847650      | C              | 54847650     | 0.00617      |             |         |
| rs9332417  | 1      | 1          | 54891877      | G              | 54891877     | 0.00063      |             |         |
| rs598130   | 1      | 1          | 54910882      | A              | 54910882     | 0.01237      |             |         |
| SNP     | Allele | Position  | Quality |
|---------|--------|-----------|---------|
| rs498831 | 1      | 54916688  | G       | 17.06800 |
| rs17575462 | 1 | 55077424  | G       | 0.00922  |
| rs2495505 | 1      | 55257398  | A       | 0.00710  |
| rs11206510 | 1 | 55268627  | A       | 0.01615  |
| rs11206601 | 1 | 55704335  | G       | 0.01019  |
| rs874664  | 1      | 55705932  | C       | 0.01579  |
| rs1392128 | 1      | 55839140  | C       | 0.01073  |
| rs11206510 | 1 | 55268627  | A       | 0.00710  |
| rs11206601 | 1 | 55704335  | G       | 0.01019  |
| rs635833  | 1      | 57150398  | C       | 0.00476  |
| rs17115362 | 1 | 57444736  | G       | 0.01299  |
| rs2805860 | 1      | 57800162  | C       | 0.01114  |
| rs947242  | 1      | 57815437  | C       | 0.00476  |
| rs3131734 | 1      | 57981808  | T       | 0.01108  |
| rs3131745 | 1      | 58011280  | C       | 0.00727  |
| rs17519861 | 1 | 58110103  | C       | 0.00714  |
| rs1187994 | 1      | 58225892  | C       | 0.00103  |
| rs1187988 | 1      | 58238604  | T       | 0.00438  |
| rs12028704 | 1  | 58250950  | T       | 0.00335  |
| rs11207153 | 1 | 58254617  | G       | 0.01085  |
| rs1342876 | 1      | 58351200  | C       | 0.00770  |
| rs1953811 | 1      | 58426951  | T       | 0.00291  |
| rs4567304 | 1      | 58592505  | A       | 0.00722  |
| rs17496545 | 1 | 58599898  | G       | 0.01536  |
| rs697585  | 1      | 58658783  | C       | 0.01109  |
| rs706430  | 1      | 58675926  | T       | 0.01611  |
| rs706450  | 1      | 58688212  | G       | 0.00528  |
| rs17117850 | 1  | 58820094  | A       | 0.00185  |
| rs12030196 | 1 | 59255908  | A       | 0.01381  |
| rs6587854 | 1      | 59668122  | A       | 0.00438  |
| rs10493267 | 1 | 59831294  | A       | 0.01544  |
| rs10489421 | 1 | 60057975  | G       | 0.00743  |
| rs11572293 | 1  | 60142349  | G       | 0.00520  |
| rs12043321 | 1 | 60901183  | G       | 0.01145  |
| rs334728  | 1      | 61381595  | G       | 0.00170  |
| rs7553245  | 1     | 62116567  | T       | 0.00442  |
| rs12759978 | 1  | 62418770  | G       | 0.01144  |
| rs6680953  | 1      | 62471657  | C       | 0.01057  |
| rs6662848  | 1      | 63219665  | A       | 0.00112  |
| rsID          | Minor Allele | Chromosome Position | Minor Allele Frequency |
|--------------|--------------|---------------------|------------------------|
| rs1498936    | A            | 63347843            | 0.01523                |
| rs11589776   | A            | 63516591            | 0.00077                |
| rs10789136   | C            | 63602934            | 0.00650                |
| rs2036867    | T            | 63679468            | 19.69600               |
| rs12078371   | C            | 63755548            | 0.00181                |
| rs2269239    | C            | 63881947            | 0.00693                |
| rs11208264   | G            | 63897660            | 0.00309                |
| rs2013012    | A            | 63900797            | 0.00472                |
| rs6678106    | G            | 63923834            | 0.00380                |
| rs4915919    | G            | 63967631            | 0.00793                |
| rs285393     | G            | 64245244            | 0.00380                |
| rs285400     | G            | 64250080            | 0.00469                |
| rs305565     | C            | 64737146            | 0.00701                |
| rs310196     | G            | 65124210            | 0.01098                |
| rs7553101    | G            | 65192778            | 0.00816                |
| rs4916031    | T            | 65454131            | 0.00702                |
| rs6677191    | T            | 65461049            | 0.00802                |
| rs11208615   | C            | 65490298            | 0.00200                |
| rs3790432    | T            | 65808327            | 0.01626                |
| rs3790426    | T            | 65815607            | 0.01343                |
| rs11208724   | T            | 65951791            | 0.00337                |
| rs2503197    | C            | 66217237            | 0.01638                |
| rs1317611    | G            | 66224365            | 0.00596                |
| rs2186122    | T            | 66242794            | 0.00141                |
| rs2489907    | T            | 66246509            | 0.00987                |
| rs4655605    | T            | 66551081            | 0.00384                |
| rs783051     | A            | 66621998            | 0.01255                |
| rs11208943   | G            | 66915263            | 0.00323                |
| rs12082503   | A            | 67262097            | 0.00986                |
| rs2863212    | T            | 67457704            | 0.00910                |
| rs4655769    | C            | 68249566            | 0.00838                |
| rs10789263   | C            | 68721727            | 0.01275                |
| rs1924529    | A            | 68794759            | 0.01439                |
| rs2507189    | C            | 68823722            | 0.01219                |
| rs2815432    | T            | 69500552            | 0.01104                |
| rs11209479   | A            | 69737991            | 0.00091                |
| rs1773337    | G            | 69853184            | 0.00652                |
| rs12078287   | T            | 69869202            | 0.00479                |
| rs11209514   | T            | 69913646            | 0.01595                |
| rs12133092   | G            | 69916151            | 0.01412                |
| rs12022970   | T            | 69921347            | 0.00387                |
| rs1340751    | A            | 69946292            | 0.00755                |
| SNP        | ID    | Chromosome | Position | Allele 1 | Allele 2 | P-value |
|------------|-------|------------|----------|----------|----------|---------|
| rs17131142 | 1     | 10         | 70272500 | A        |          | 0.01629 |
| rs12025814 | 1     | 10         | 70272705 | T        |          | 0.00892 |
| rs2274913  | 1     | 10         | 70461803 | G        |          | 0.01128 |
| rs7548299  | 1     | 10         | 71190213 | A        |          | 0.00951 |
| rs2125777  | 1     | 10         | 72011020 | C        |          | 0.00695 |
| rs1491198  | 1     | 10         | 72015178 | A        |          | 0.00824 |
| rs12025922 | 1     | 10         | 72101628 | T        |          | 0.00557 |
| rs10789340 | 1     | 10         | 72712861 | T        |          | 0.00101 |
| rs12140865 | 1     | 10         | 73705474 | A        |          | 0.01463 |
| rs6701520  | 1     | 10         | 73713306 | T        |          | 0.01378 |
| rs7534840  | 1     | 10         | 73748346 | T        |          | 0.01361 |
| rs4540593  | 1     | 10         | 73843197 | A        |          | 0.00102 |
| rs685512   | 1     | 10         | 74868620 | A        |          | 0.01272 |
| rs696667   | 1     | 10         | 74922100 | A        |          | 0.01147 |
| rs1475396  | 1     | 10         | 75014984 | G        |          | 0.00547 |
| rs10874274 | 1     | 10         | 75024722 | G        |          | 0.00362 |
| rs927904   | 1     | 10         | 75032916 | G        |          | 0.01147 |
| rs1146405  | 1     | 10         | 75068080 | T        |          | 0.01541 |
| rs10493550 | 1     | 10         | 75232921 | A        |          | 0.00965 |
| rs1251546  | 1     | 10         | 76215417 | A        |          | 0.01577 |
| rs1251513  | 1     | 10         | 76293782 | C        |          | 0.01238 |
| rs3011997  | 1     | 10         | 76399642 | A        |          | 0.00293 |
| rs10782606 | 1     | 10         | 76453810 | G        |          | 0.00557 |
| rs11162132 | 1     | 10         | 76605696 | G        |          | 0.01400 |
| rs10873889 | 1     | 10         | 76734548 | T        |          | 0.01228 |
| rs425149   | 1     | 10         | 76770433 | A        |          | 0.00510 |
| rs962667   | 1     | 10         | 76990046 | C        |          | 0.01544 |
| rs12126117 | 1     | 10         | 77512410 | G        |          | 0.00508 |
| rs2647517  | 1     | 10         | 77663242 | T        |          | 0.00044 |
| rs17101082 | 1     | 10         | 78173795 | A        |          | 0.00460 |
| rs12731181 | 1     | 10         | 78775177 | G        |          | 0.00168 |
| rs1333978  | 1     | 10         | 78820018 | T        |          | 0.00009 |
| rs12143872 | 1     | 10         | 79355195 | C        |          | 0.00595 |
| rs12751985 | 1     | 10         | 79778531 | A        |          | 0.00680 |
| rs2374186  | 1     | 10         | 79849115 | A        |          | 0.00150 |
| rs6672282  | 1     | 10         | 79972153 | T        |          | 0.00401 |
| rs1325200  | 1     | 10         | 80190582 | G        |          | 0.00014 |
| rs981126   | 1     | 10         | 80304382 | T        |          | 0.00096 |
| rs35020936 | 1     | 10         | 80577091 | T        |          | 0.00434 |
| rs2997195  | 1     | 10         | 80611468 | A        |          | 0.00174 |
| rs1365752  | 1     | 10         | 80629549 | A        |          | 0.00761 |
| rs11163047 | 1     | 10         | 80780548 | G        |          | 0.00113 |
| rsID       | CHROM  | POS   | ALT | AF   |
|------------|--------|-------|-----|------|
| rs2105126  | 1      | 80982713 | G   | 0.00590 |
| rs2147084  | 1      | 81031531 | C   | 0.01168 |
| rs17105708 | 1      | 81165299 | T   | 0.00904 |
| rs17456341 | 1      | 81859331 | C   | 0.00831 |
| rs11163376 | 1      | 82026944 | G   | 0.00633 |
| rs927902   | 1      | 82761041 | C   | 0.00484 |
| rs10493720 | 1      | 82851559 | G   | 0.01317 |
| rs17105708 | 1      | 81165299 | T   | 0.00904 |
| rs17456341 | 1      | 81859331 | C   | 0.00831 |
| rs11163376 | 1      | 82026944 | G   | 0.00633 |
| rs927902   | 1      | 82761041 | C   | 0.00484 |
| rs10493720 | 1      | 82851559 | G   | 0.01317 |
| rs319671   | 1      | 83276104 | C   | 0.00432 |
| rs323972   | 1      | 83308402 | C   | 0.00432 |
| rs10874393 | 1      | 83798720 | T   | 0.01210 |
| rs6704084  | 1      | 83807136 | T   | 0.00783 |
| rs11163794 | 1      | 83883604 | C   | 0.00657 |
| rs6676587  | 1      | 84049017 | T   | 0.00213 |
| rs626376   | 1      | 84288631 | T   | 0.00506 |
| rs315537   | 1      | 84591181 | A   | 0.00707 |
| rs4907110  | 1      | 85143853 | T   | 0.00533 |
| rs10782539 | 1      | 85319858 | G   | 0.01091 |
| rs9830850  | 1      | 85843032 | C   | 0.00228 |
| rs12143304 | 1      | 86278343 | G   | 0.01173 |
| rs7550571  | 1      | 86350458 | A   | 0.00413 |
| rs985616   | 1      | 86412217 | T   | 0.00020 |
| rs12755828 | 1      | 86556035 | C   | 0.00251 |
| rs692739   | 1      | 86930717 | G   | 0.00347 |
| rs2390220  | 1      | 87227506 | G   | 0.00763 |
| rs6675309  | 1      | 87397317 | G   | 0.00161 |
| rs1888337  | 1      | 87542558 | T   | 0.01034 |
| rs4655952  | 1      | 87549430 | A   | 0.00038 |
| rs4655959  | 1      | 87661388 | A   | 0.01090 |
| rs6692873  | 1      | 88533008 | A   | 0.01457 |
| rs306336   | 1      | 88745467 | A   | 0.01517 |
| rs11590752 | 1      | 88841271 | G   | 0.00029 |
| rs430600   | 1      | 88998564 | A   | 0.00802 |
| rs12405169 | 1      | 89088833 | G   | 0.01587 |
| rs10922504 | 1      | 89134355 | G   | 0.00106 |
| rs1325922  | 1      | 89200041 | G   | 0.00047 |
| rs6667970  | 1      | 89429449 | C   | 0.01043 |
| rs17491902 | 1      | 89788753 | A   | 0.01666 |
| rs10922700 | 1      | 89925873 | G   | 0.00183 |
| rs12142526 | 1      | 90177778 | A   | 0.01439 |
| rs2802019  | 1      | 90224707 | G   | 0.00515 |
| rs2490113  | 1      | 90228685 | C   | 0.01390 |
| rs1775585  | 1      | 91031704 | G   | 0.00851 |
| rs10493841 | 1      | 91048019 | G   | 0.00983 |
| SNP          | rsID     | Chromosome | Position | Allele 1 | Allele 2 | Frequency |
|--------------|----------|------------|----------|----------|----------|-----------|
| rs10922929   | 1        | 1          | 91051894 | G        |          | 0.01511   |
| rs1725430    | 1        | 1          | 91052106 | T        |          | 0.00904   |
| rs12567930   | 1        | 1          | 91573534 | G        |          | 0.01492   |
| rs12031457   | 1        | 1          | 91709536 | C        |          | 0.01175   |
| rs41436349   | 1        | 1          | 91799747 | C        |          | 0.00014   |
| rs284164     | 1        | 1          | 92041655 | T        |          | 0.01015   |
| rs11165840   | 1        | 1          | 92173025 | A        |          | 0.00604   |
| rs766665     | 1        | 1          | 92191962 | C        |          | 0.01542   |
| rs12090761   | 1        | 1          | 92664188 | A        |          | 0.01036   |
| rs6687359    | 1        | 1          | 93532515 | G        |          | 0.00140   |
| rs4847409    | 1        | 1          | 93568520 | G        |          | 0.01122   |
| rs4075523    | 1        | 1          | 93991061 | C        |          | 0.01157   |
| rs4240956    | 1        | 1          | 93996357 | A        |          | 0.00548   |
| rs7515462    | 1        | 1          | 94000572 | G        |          | 0.01260   |
| rs2391313    | 1        | 1          | 94014144 | A        |          | 0.01312   |
| rs1004197    | 1        | 1          | 94022128 | C        |          | 0.00807   |
| rs6692717    | 1        | 1          | 94055681 | C        |          | 0.01209   |
| rs41351346   | 1        | 1          | 94218381 | A        |          | 0.01419   |
| rs3789391    | 1        | 1          | 94251926 | T        |          | 0.01465   |
| rs1749541    | 1        | 1          | 94730966 | T        |          | 0.01568   |
| rs7555399    | 1        | 1          | 94762365 | T        |          | 0.00467   |
| rs1760512    | 1        | 1          | 94984405 | G        |          | 0.00789   |
| rs12048606   | 1        | 1          | 95065079 | C        |          | 0.00803   |
| rs10489810   | 1        | 1          | 95102023 | T        |          | 0.01607   |
| rs859047     | 1        | 1          | 95150991 | G        |          | 0.00898   |
| rs7512953    | 1        | 1          | 95326882 | A        |          | 0.00075   |
| rs11165314   | 1        | 1          | 95362975 | A        |          | 0.01586   |
| rs2039613    | 1        | 1          | 95462704 | T        |          | 0.00192   |
| rs945826     | 1        | 1          | 95756744 | C        |          | 0.00406   |
| rs10489562   | 1        | 1          | 95831138 | G        |          | 0.01581   |
| rs1509173    | 1        | 1          | 95848258 | A        |          | 0.01362   |
| rs621485     | 1        | 1          | 95860780 | T        |          | 0.01417   |
| rs12405938   | 1        | 1          | 96158814 | A        |          | 0.00221   |
| rs1146530    | 1        | 1          | 96265077 | G        |          | 0.00415   |
| rs2391735    | 1        | 1          | 96377557 | T        |          | 0.00451   |
| rs12564030   | 1        | 1          | 96475283 | T        |          | 0.00876   |
| rs1994375    | 1        | 1          | 96486632 | G        |          | 0.00105   |
| rs2391782    | 1        | 1          | 96999263 | A        |          | 0.01437   |
| rs635578     | 1        | 1          | 97077159 | A        |          | 0.00799   |
| rs11165874   | 1        | 1          | 97680832 | G        |          | 0.00881   |
| rs3956688    | 1        | 1          | 97777306 | C        |          | 0.01063   |
| rs7535694    | 1        | 1          | 97863533 | C        |          | 0.00873   |
| rs17383059   | 1        | 1          | 98648030 | G        |          | 0.01106   |
| rs11166018   | 1        | 1          | 98695503 | C        |          | 0.00889   |
| SNP          | Chromosome | Position          | Allele | P-value |
|--------------|------------|-------------------|--------|---------|
| rs4950128    | 1          | 98699702          | G      | 0.00331 |
| rs11801576   | 1          | 99197962          | A      | 0.00849 |
| rs302756     | 1          | 99382703          | A      | 0.01384 |
| rs302765     | 1          | 99390673          | C      | 0.00581 |
| rs668206     | 1          | 99416551          | C      | 0.01247 |
| rs17120121   | 1          | 99475924          | G      | 0.01332 |
| rs819908     | 1          | 99535247          | T      | 0.00851 |
| rs2392028    | 1          | 99620365          | A      | 0.00186 |
| rs7529598    | 1          | 9981758           | G      | 0.01549 |
| rs302765     | 1          | 99872120          | G      | 0.01600 |
| rs1890410    | 1          | 99923412          | G      | 0.00921 |
| rs12141159   | 1          | 99950114          | C      | 0.01641 |
| rs1565744    | 1          | 100050187         | A      | 0.00257 |
| rs2307130    | 1          | 100089177         | C      | 0.01203 |
| rs11166407   | 1          | 100410296         | T      | 0.00978 |
| rs6577171    | 1          | 100659558         | T      | 0.01382 |
| rs7548917    | 1          | 101011964         | T      | 0.01250 |
| rs7545402    | 1          | 101093664         | C      | 0.00223 |
| rs17124135   | 1          | 101542689         | T      | 0.0061  |
| rs12072589   | 1          | 101847063         | A      | 0.00559 |
| rs6663652    | 1          | 101917302         | C      | 0.00449 |
| rs2039942    | 1          | 102070334         | A      | 0.01132 |
| rs17125608   | 1          | 102099731         | A      | 0.00350 |
| rs7515984    | 1          | 102167808         | G      | 0.01505 |
| rs755181     | 1          | 102176835         | G      | 0.01003 |
| rs7512461    | 1          | 102181350         | A      | 0.01624 |
| rs11583344   | 1          | 102184466         | G      | 0.01651 |
| rs10493978   | 1          | 102351895         | T      | 0.00958 |
| rs11164392   | 1          | 102356421         | A      | 0.01581 |
| rs1272970    | 1          | 102602312         | G      | 0.01548 |
| rs1823549    | 1          | 102920419         | A      | 0.00780 |
| rs1451031    | 1          | 102967249         | A      | 0.00079 |
| rs12116936   | 1          | 104439177         | T      | 0.01194 |
| rs10736036   | 1          | 104981896         | T      | 0.00122 |
| rs12039389   | 1          | 105460596         | G      | 0.00417 |
| rs12066081   | 1          | 106437715         | A      | 0.00149 |
| rs4417097    | 1          | 106601576         | G      | 0.00970 |
| rs17492224   | 1          | 107115601         | G      | 0.00486 |
| rs4430358    | 1          | 107564907         | C      | 0.01142 |
| rs11577034   | 1          | 107733070         | A      | 0.00021 |
| rs4914953    | 1          | 107985947         | G      | 0.00532 |
| rs6583040    | 1          | 108011685         | A      | 0.00503 |
| rs6696531    | 1          | 108291231         | A      | 0.00430 |
| rs695030     | 1          | 108444334         | A      | 0.00483 |
| SNP          | rsID   | Position | Allele | P-value |
|--------------|--------|----------|--------|---------|
| rs11185282   | 1      | 108483005| A      | 0.00018 |
| rs9440550    | 1      | 109194424| G      | 0.00282 |
| rs17014528   | 1      | 109539325| A      | 0.00509 |
| rs6663547    | 1      | 109915752| C      | 0.00384 |
| rs6695237    | 1      | 110217149| G      | 0.00377 |
| rs12036949   | 1      | 110217322| G      | 0.01424 |
| rs7522621    | 1      | 110218390| G      | 0.01320 |
| rs7367132    | 1      | 110230637| G      | 0.00056 |
| rs4838929    | 1      | 110502060| G      | 0.00377 |
| rs3849180    | 1      | 110621941| T      | 0.00629 |
| rs7554231    | 1      | 110872283| G      | 0.01327 |
| rs17631306   | 1      | 110873845| G      | 0.00873 |
| rs7522527    | 1      | 110903190| A      | 0.00022 |
| rs11102162   | 1      | 111133718| G      | 0.01259 |
| rs1043096    | 1      | 111483830| G      | 0.00324 |
| rs623775     | 1      | 111549651| A      | 0.01114 |
| rs3934922    | 1      | 111589171| G      | 0.01034 |
| rs10857870   | 1      | 111630743| C      | 0.00673 |
| rs4839127    | 1      | 111707682| C      | 0.01644 |
| rs1264913    | 1      | 111776458| G      | 0.01604 |
| rs10857892   | 1      | 111864525| T      | 0.01221 |
| rs2477425    | 1      | 111954125| G      | 0.01269 |
| rs1324889    | 1      | 111985163| G      | 0.01266 |
| rs4839171    | 1      | 112170877| T      | 0.01116 |
| rs12129789   | 1      | 112180549| T      | 0.01171 |
| rs4839202    | 1      | 112388477| G      | 0.01620 |
| rs269080     | 1      | 112399680| A      | 0.00144 |
| rs17740750   | 1      | 112405977| T      | 0.01599 |
| rs370258     | 1      | 112410575| T      | 0.01666 |
| rs7531453    | 1      | 112436461| A      | 0.01381 |
| rs269097     | 1      | 112436461| A      | 0.01381 |
| rs1992509    | 1      | 112524987| G      | 0.00854 |
| rs1416203    | 1      | 112563816| A      | 0.00464 |
| rs2998359    | 1      | 112582141| G      | 0.01137 |
| rs1371690    | 1      | 112583351| G      | 0.00166 |
| rs12097373   | 1      | 113187470| T      | 0.00859 |
| rs17013326   | 1      | 113890839| T      | 0.01124 |
| rs1217226    | 1      | 113941445| G      | 0.00844 |
| rs1230649    | 1      | 114045700| C      | 0.01113 |
| rs41534747   | 1      | 114088209| G      | 0.00664 |
| rs1217396    | 1      | 114139759| G      | 0.01237 |
| rs2488457    | 1      | 114216891| C      | 0.01422 |
| rs1065634    | 1      | 115061291| T      | 0.01501 |
| rs2798659    | 1      | 115157486| C      | 0.00720 |
| rsID         | n | Chromosome | Position  | Allele | p   |
|-------------|---|------------|-----------|--------|-----|
| rs6537850   | 1 | 115403642  | A         | 0.00047|
| rs10858063  | 1 | 115407659  | T         | 0.00312|
| rs10218480  | 1 | 115468201  | C         | 0.00488|
| rs10924103  | 1 | 116838074  | G         | 0.01382|
| rs497573    | 1 | 117073135  | G         | 0.00888|
| rs2306444   | 1 | 117786299  | T         | 0.00181|
| rs10923312  | 1 | 118269162  | C         | 0.01576|
| rs12035880  | 1 | 119008658  | C         | 0.01576|
| rs10923714  | 1 | 119314436  | C         | 0.00681|
| rs947433    | 1 | 119562561  | T         | 0.00531|
| rs838528    | 1 | 119700558  | T         | 0.00615|
| rs1417610   | 1 | 119779284  | T         | 0.00727|
| rs4659177   | 1 | 119804451  | T         | 0.00839|
| rs539799    | 1 | 120009995  | C         | 0.00527|
| rs17024521  | 1 | 120268277  | G         | 0.01162|
| rs4388643   | 1 | 144338416  | G         | 0.00541|
| rs6668865   | 1 | 145134659  | A         | 0.01310|
| rs2354432   | 1 | 145159853  | T         | 0.00601|
| rs10900336  | 1 | 145241823  | A         | 0.01056|
| rs11589438  | 1 | 145382914  | A         | 0.00580|
| rs688325    | 1 | 145543907  | A         | 0.00912|
| rs3820129   | 1 | 145558596  | A         | 0.00932|
| rs2298161   | 1 | 148504248  | A         | 0.00323|
| rs12403255  | 1 | 148927036  | C         | 0.01548|
| rs11204774  | 1 | 149329581  | T         | 0.00244|
| rs6704126   | 1 | 149637929  | A         | 0.01052|
| rs12751531  | 1 | 149678259  | C         | 0.00395|
| rs10736380  | 1 | 149695229  | C         | 0.00973|
| rs3811417   | 1 | 150071531  | T         | 0.00303|
| rs12123975  | 1 | 150271428  | A         | 0.00609|
| rs7518654   | 1 | 150784469  | C         | 0.00239|
| rs877656    | 1 | 151045441  | A         | 0.01164|
| rs11205174  | 1 | 151267854  | C         | 0.01332|
| rs10888528  | 1 | 151317140  | A         | 0.00415|
| rs2288990   | 1 | 151584632  | C         | 0.01599|
| rs6696089   | 1 | 152599494  | T         | 0.01113|
| rs6694817   | 1 | 152668596  | G         | 0.00418|
| rs7556449   | 1 | 152772510  | C         | 0.01201|
| rs3766922   | 1 | 152843679  | C         | 0.00786|
| rs1131820   | 1 | 153011476  | C         | 0.00430|
| rs11264275  | 1 | 153091894  | T         | 0.00448|
| rs10908448  | 1 | 153149168  | G         | 0.01240|
| SNP       | AF   | Chromosome | Position | Ref | Alt | p-value |
|-----------|------|------------|----------|-----|-----|---------|
| rs4845690 | 0.00298 | 1 | 153153441 | T |   |         |
| rs4661081 | 0.00302 | 1 | 155290916 | G |   |         |
| rs4661138 | 0.00905 | 1 | 155609183 | A |   |         |
| rs7549840 | 0.00715 | 1 | 155639620 | C |   |         |
| rs12755544 | 0.00382 | 1 | 155819275 | A |   |         |
| rs7530662 | 0.01008 | 1 | 156049275 | A |   |         |
| rs12129250 | 0.01361 | 1 | 156071272 | T |   |         |
| rs2765501 | 0.01503 | 1 | 156071272 | T |   |         |
| rs7530662 | 0.01008 | 1 | 156433933 | G |   |         |
| rs393304  | 0.00615 | 1 | 156451439 | C |   |         |
| rs12405213 | 0.01054 | 1 | 156632321 | T |   |         |
| rs11578937 | 0.00602 | 1 | 156642230 | A |   |         |
| rs1684035 | 0.00543 | 1 | 156845314 | G |   |         |
| rs12568794 | 0.00595 | 1 | 157112723 | A |   |         |
| rs3768513 | 0.01485 | 1 | 157278841 | A |   |         |
| rs11804578 | 0.00237 | 1 | 157833723 | T |   |         |
| rs4131568 | 0.00978 | 1 | 158007680 | A |   |         |
| rs4551590 | 0.00578 | 1 | 158254744 | A |   |         |
| rs11265354 | 0.00568 | 1 | 158438808 | G |   |         |
| rs12016623 | 0.00150 | 1 | 158731640 | C |   |         |
| rs7410867 | 0.00458 | 1 | 159099423 | C |   |         |
| rs11587040 | 0.00441 | 1 | 159166407 | A |   |         |
| rs12738660 | 0.00672 | 1 | 159622258 | C |   |         |
| rs4657130 | 0.00496 | 1 | 160230231 | A |   |         |
| rs12567211 | 0.00915 | 1 | 160303147 | A |   |         |
| rs4657171 | 0.01397 | 1 | 160445222 | C |   |         |
| rs12064639 | 0.00988 | 1 | 160452056 | C |   |         |
| rs2661810 | 0.01394 | 1 | 160543056 | T |   |         |
| rs469726  | 0.00024 | 1 | 160683731 | A |   |         |
| rs2806423 | 0.01396 | 1 | 160978613 | T |   |         |
| rs10917693 | 0.00695 | 1 | 161412288 | C |   |         |
| rs10799928 | 0.00127 | 1 | 161761408 | A |   |         |
| rs17386462 | 0.00816 | 1 | 162853299 | T |   |         |
| rs4657374 | 0.01632 | 1 | 163027242 | A |   |         |
| rs1573181 | 0.00337 | 1 | 163225463 | A |   |         |
| rs1123821 | 0.00608 | 1 | 163584942 | G |   |         |
| rs2194899 | 0.00270 | 1 | 163677409 | T |   |         |
| rs3753898 | 0.00699 | 1 | 163682875 | G |   |         |
| rs17415428 | 0.00443 | 1 | 163771676 | G |   |         |
| rs9333413 | 0.00581 | 1 | 163875924 | A |   |         |
| rs10918239 | 0.00119 | 1 | 163911489 | C |   |         |
| rs10918538 | 0.00190 | 1 | 164181845 | G |   |         |
| rs6661072 | 0.01198 | 1 | 164224644 | C |   |         |
| rs11579987 | 0.00370 | 1 | 165155988 | C |   |         |
| SNP      | Chromosome | Start Position | Allele | P-value |
|----------|------------|----------------|--------|---------|
| rs34925982 | 1         | 165206365      | A      | 0.00619 |
| rs7545911  | 1         | 165214305      | T      | 0.01579 |
| rs6682062  | 1         | 165216603      | C      | 0.01282 |
| rs6688613  | 1         | 165218493      | A      | 0.01013 |
| rs1327866  | 1         | 165219534      | C      | 0.00487 |
| rs1119091  | 1         | 165236639      | T      | 0.01114 |
| rs12133491 | 1         | 165323807      | G      | 0.01329 |
| rs10127714 | 1         | 165333233      | C      | 0.00597 |
| rs7412201  | 1         | 165356012      | T      | 0.01116 |
| rs12143783 | 1         | 165389053      | A      | 0.01216 |
| rs6827082  | 1         | 165562462      | A      | 0.01214 |
| rs10918683 | 1         | 165568622      | T      | 2.84700 |
| rs932396   | 1         | 16575578       | C      | 0.00570 |
| rs7543683  | 1         | 165808961      | A      | 0.00240 |
| rs16859595 | 1         | 165999608      | A      | 0.01393 |
| rs12059815 | 1         | 166746344      | G      | 0.00044 |
| rs7524938  | 1         | 167079363      | G      | 0.00142 |
| rs6688139  | 1         | 167457279      | C      | 0.01663 |
| rs6703463  | 1         | 167466049      | T      | 0.01175 |
| rs1856303  | 1         | 167547862      | T      | 0.00806 |
| rs4656724  | 1         | 168088112      | G      | 0.01540 |
| rs12048441 | 1         | 168433735      | G      | 0.00563 |
| rs926440   | 1         | 169100968      | T      | 0.00611 |
| rs6681815  | 1         | 169161546      | A      | 0.00279 |
| rs7534557  | 1         | 169766778      | T      | 0.01183 |
| rs7537770  | 1         | 170046962      | T      | 0.00662 |
| rs16843588 | 1         | 170176191      | C      | 0.00102 |
| rs41516352 | 1         | 170459926      | C      | 0.01616 |
| rs12411264 | 1         | 170460291      | G      | 0.00051 |
| rs4072117  | 1         | 170475494      | T      | 0.01067 |
| rs2213736  | 1         | 170731120      | T      | 0.01243 |
| rs10458360 | 1         | 170900598      | C      | 0.00038 |
| rs10798178 | 1         | 170943797      | A      | 0.00854 |
| rs859627   | 1         | 170995569      | C      | 0.00171 |
| rs4554754  | 1         | 171652096      | C      | 0.01035 |
| rs4294450  | 1         | 171656263      | C      | 0.00118 |
| rs10489323 | 1         | 173557189      | G      | 0.00936 |
| rs10912957 | 1         | 173562004      | T      | 0.00614 |
| rs10489322 | 1         | 173565216      | A      | 0.00045 |
| rs11585085 | 1         | 173596626      | A      | 0.00391 |
| rs4570382  | 1         | 173818063      | A      | 0.01111 |
| rs12065732 | 1         | 173833340      | A      | 0.00779 |
| rs12030347 | 1         | 173854154      | G      | 0.00564 |
| rs6425357  | 1         | 174004791      | A      | 0.01644 |
| SNP   | CHROM | POSITION | ALT | AF  |
|-------|-------|----------|-----|-----|
| rs7544599 | 1 | 174017463 | G | 0.00600 |
| rs2030558 | 1 | 174156250 | T | 0.00027 |
| rs7547111 | 1 | 174166516 | G | 0.01342 |
| rs2502827 | 1 | 174310840 | A | 0.00782 |
| rs2206503 | 1 | 174720725 | G | 0.00635 |
| rs2206511 | 1 | 174784152 | C | 0.00819 |
| rs6676686 | 1 | 175024712 | T | 0.01100 |
| rs11587780 | 1 | 175154068 | A | 0.01608 |
| rs2030558 | 1 | 175569595 | G | 0.01194 |
| rs2206503 | 1 | 17572481 | G | 0.00953 |
| rs6676686 | 1 | 17580821 | G | 0.01659 |
| rs11577538 | 1 | 176087484 | A | 0.01196 |
| rs869286 | 1 | 176210435 | C | 0.00240 |
| rs16852381 | 1 | 176269293 | C | 0.01319 |
| rs2492279 | 1 | 176820103 | A | 0.00089 |
| rs10798652 | 1 | 177328050 | A | 0.00053 |
| rs6674086 | 1 | 177726177 | G | 0.00986 |
| rs6674274 | 1 | 177726299 | C | 0.01165 |
| rs964983 | 1 | 177763642 | C | 0.01072 |
| rs11577538 | 1 | 177784337 | G | 0.01044 |
| rs1887816 | 1 | 17814890 | A | 0.01054 |
| rs1887814 | 1 | 17818275 | C | 0.00212 |
| rs4652420 | 1 | 17828766 | C | 0.00387 |
| rs4652424 | 1 | 17835711 | C | 0.00257 |
| rs10913878 | 1 | 178991215 | C | 0.00639 |
| rs1148819 | 1 | 179069001 | T | 0.01453 |
| rs16855014 | 1 | 179192161 | G | 0.01102 |
| rs2331739 | 1 | 179762293 | A | 0.01420 |
| rs7548318 | 1 | 180492182 | T | 0.00747 |
| rs2331886 | 1 | 180891881 | G | 0.00798 |
| rs17302632 | 1 | 180891881 | G | 0.01500 |
| rs12088165 | 1 | 181924722 | T | 0.00763 |
| rs10911480 | 1 | 182221005 | G | 0.00004 |
| rsID       | Minor Allele | Chromosome | Position | Minor Allele | Minor Allele Freq |
|------------|--------------|------------|----------|--------------|------------------|
| rs41470944 | G            | 1          | 182668852| G            | 0.00192          |
| rs10911702 | G            | 1          | 183539217| G            | 0.00917          |
| rs41453048 | G            | 1          | 183796340| G            | 0.01401          |
| rs12408916 | C            | 1          | 184448269| C            | 0.01463          |
| rs2383529  | G            | 1          | 184935715| G            | 0.00586          |
| rs6690278  | T            | 1          | 185212633| T            | 0.01429          |
| rs10489410 | C            | 1          | 185220818| C            | 0.01166          |
| rs10911991 | T            | 1          | 185301683| T            | 0.00211          |
| rs17545182 | A            | 1          | 185321946| A            | 0.01656          |
| rs964665   | G            | 1          | 185476575| G            | 0.01024          |
| rs12740330 | C            | 1          | 185647575| C            | 0.00370          |
| rs12137534 | G            | 1          | 185694854| G            | 0.00445          |
| rs673503   | T            | 1          | 186290345| T            | 0.00835          |
| rs4651467  | A            | 1          | 186823646| A            | 0.00947          |
| rs10921118 | T            | 1          | 187265926| T            | 0.00977          |
| rs1342554  | G            | 1          | 187447701| G            | 0.01014          |
| rs499557   | G            | 1          | 187885135| G            | 0.01235          |
| rs494978   | C            | 1          | 187927195| C            | 0.01487          |
| rs4845222  | A            | 1          | 188264362| A            | 0.00178          |
| rs10800939 | A            | 1          | 188508873| A            | 0.01471          |
| rs505600   | A            | 1          | 188547582| A            | 0.01543          |
| rs814953   | G            | 1          | 188789599| G            | 0.01348          |
| rs3252220  | T            | 1          | 188929461| T            | 0.00132          |
| rs7512722  | T            | 1          | 188997417| T            | 0.00010          |
| rs491821   | C            | 1          | 189036927| C            | 0.00574          |
| rs10920829 | C            | 1          | 189124494| C            | 0.00999          |
| rs7519532  | C            | 1          | 189643292| C            | 0.00549          |
| rs648685   | G            | 1          | 189695352| G            | 0.01448          |
| rs16834097 | C            | 1          | 190404481| C            | 0.00562          |
| rs10921369 | A            | 1          | 191742454| A            | 0.01466          |
| rs7541624  | T            | 1          | 191920912| T            | 0.01096          |
| rs1416599  | C            | 1          | 191930411| C            | 0.00405          |
| rs16835692 | T            | 1          | 191934519| T            | 0.01292          |
| rs12024767 | C            | 1          | 191944757| C            | 0.00922          |
| rs16835697 | C            | 1          | 191949253| C            | 0.01497          |
| rs17376854 | C            | 1          | 191951351| C            | 0.00462          |
| rs7527158  | A            | 1          | 191967952| A            | 0.00551          |
| rs6673280  | A            | 1          | 191968573| A            | 0.00934          |
| rs41516151 | C            | 1          | 192021429| C            | 0.01604          |
| rs1326859  | C            | 1          | 192070515| C            | 0.00369          |
| rs16836246 | G            | 1          | 192328689| G            | 0.00190          |
| rs10754101 | A            | 1          | 192631743| A            | 0.01230          |
| rs4512625  | T            | 1          | 192687297| T            | 0.00479          |
| rs4557953  | G            | 1          | 192979872| G            | 0.00360          |
| SNP          | Position | Chromosome | Risk Allele | Minor Allele | P-value |
|--------------|----------|------------|-------------|--------------|---------|
| rs4657943    | 193112639| 1          | T           |              | 0.00738 |
| rs591575     | 193431315| 1          | A           |              | 0.01494 |
| rs17661321   | 193528686| 1          | A           | T            | 0.00696 |
| rs3010143    | 194126300| 1          | A           | T            | 0.00429 |
| rs3008578    | 194131227| 1          | T           |              | 0.01046 |
| rs3010149    | 194139079| 1          | A           |              | 0.01509 |
| rs1451920    | 194141413| 1          | T           |              | 0.00086 |
| rs3010151    | 194142828| 1          | G           |              | 0.00297 |
| rs12135790   | 196345982| 1          | T           |              | 0.00669 |
| rs957388     | 196569260| 1          | C           |              | 0.01040 |
| rs1080976    | 196812175| 1          | C           |              | 0.00690 |
| rs1232916    | 197142881| 1          | A           |              | 0.00288 |
| rs12048004   | 197181925| 1          | A           |              | 0.0127  |
| rs2154328    | 197209638| 1          | G           |              | 0.00596 |
| rs2648772    | 197381370| 1          | C           |              | 0.01308 |
| rs2737631    | 198408800| 1          | T           |              | 0.00789 |
| rs4551624    | 198418447| 1          | T           |              | 0.00295 |
| rs404339     | 199153514| 1          | G           |              | 0.01646 |
| rs11579874   | 199186985| 1          | A           |              | 0.01188 |
| rs3767511    | 199318822| 1          | G           |              | 0.01382 |
| rs8158       | 199379604| 1          | C           |              | 0.00042 |
| rs6664337    | 199383377| 1          | T           |              | 0.00588 |
| rs4915220    | 199431866| 1          | A           |              | 0.00266 |
| rs12466      | 199464431| 1          | T           |              | 0.00670 |
| rs16848229   | 199523996| 1          | C           |              | 0.00184 |
| rs2268156    | 199533697| 1          | G           |              | 0.00610 |
| rs6427908    | 199695708| 1          | C           |              | 0.01091 |
| rs7527761    | 199726875| 1          | G           |              | 0.01098 |
| rs2068824    | 199861288| 1          | C           |              | 0.01205 |
| rs870094     | 201222859| 1          | A           |              | 0.00971 |
| rs2486928    | 201505191| 1          | T           |              | 0.01377 |
| rs10920623   | 201618684| 1          | G           |              | 0.00199 |
| rs11571093   | 202390294| 1          | C           |              | 0.01150 |
| rs10900555   | 202398933| 1          | G           |              | 0.00389 |
| rs16853059   | 202406807| 1          | G           |              | 0.01227 |
| rs10900558   | 202416146| 1          | C           |              | 0.01357 |
| rs4951315    | 202423791| 1          | A           |              | 0.01578 |
| rs7538038    | 202427649| 1          | C           |              | 0.01369 |
| rs12097666   | 202428835| 1          | G           |              | 0.01433 |
| rs6702751    | 202478416| 1          | G           |              | 0.01529 |
| rs7522769    | 202559307| 1          | G           |              | 0.00005 |
| rs2942133    | 202636498| 1          | A           |              | 0.00874 |
| rs1980050    | 202713311| 1          | T           |              | 0.00250 |
| rs4252675    | 202761199| 1          | C           |              | 0.00387 |
| SNP ID      | Effect  | Position   | Ref  | Alt  | p-value |
|------------|---------|------------|------|------|---------|
| rs7541449  |         | 202844931  | T    |      | 0.01183 |
| rs2772227  |         | 202882023  | T    |      | 0.01366 |
| rs2802809  |         | 203236209  | A    |      | 0.01102 |
| rs11579937 |         | 203874755  | A    |      | 0.01268 |
| rs11581303 |         | 203874776  | C    |      | 0.00900 |
| rs1620334  |         | 203964468  | C    |      | 0.01481 |
| rs2802809  |         | 203964668  | C    |      | 0.01102 |
| rs11579937 |         | 203874755  | A    |      | 0.01268 |
| rs11581303 |         | 203874776  | C    |      | 0.00900 |
| rs1620334  |         | 203964468  | C    |      | 0.01481 |
| rs2802809  |         | 203964668  | C    |      | 0.01102 |
| rs11579937 |         | 203874755  | A    |      | 0.01268 |
| rs11581303 |         | 203874776  | C    |      | 0.00900 |
| rs1620334  |         | 203964468  | C    |      | 0.01481 |
| rs2802809  |         | 203964668  | C    |      | 0.01102 |
| rs11579937 |         | 203874755  | A    |      | 0.01268 |
| rs11581303 |         | 203874776  | C    |      | 0.00900 |
| rs1620334  |         | 203964468  | C    |      | 0.01481 |
| rs2802809  |         | 203964668  | C    |      | 0.01102 |
| rs11579937 |         | 203874755  | A    |      | 0.01268 |
| rs11581303 |         | 203874776  | C    |      | 0.00900 |
| rs1620334  |         | 203964468  | C    |      | 0.01481 |
| rs2802809  |         | 203964668  | C    |      | 0.01102 |
| rs11579937 |         | 203874755  | A    |      | 0.01268 |
| rs11581303 |         | 203874776  | C    |      | 0.00900 |
| rs1620334  |         | 203964468  | C    |      | 0.01481 |
| rs2802809  |         | 203964668  | C    |      | 0.01102 |
| rs11579937 |         | 203874755  | A    |      | 0.01268 |
| rs11581303 |         | 203874776  | C    |      | 0.00900 |
| rs1620334  |         | 203964468  | C    |      | 0.01481 |
| rs2802809  |         | 203964668  | C    |      | 0.01102 |
| rs11579937 |         | 203874755  | A    |      | 0.01268 |
| rs11581303 |         | 203874776  | C    |      | 0.00900 |
| rs1620334  |         | 203964468  | C    |      | 0.01481 |
| rs2802809  |         | 203964668  | C    |      | 0.01102 |
| rs11579937 |         | 203874755  | A    |      | 0.01268 |
| rs11581303 |         | 203874776  | C    |      | 0.00900 |
| rs1620334  |         | 203964468  | C    |      | 0.01481 |
| rs2802809  |         | 203964668  | C    |      | 0.01102 |
| rs11579937 |         | 203874755  | A    |      | 0.01268 |
| rs11581303 |         | 203874776  | C    |      | 0.00900 |
| rs1620334  |         | 203964468  | C    |      | 0.01481 |
| rs2802809  |         | 203964668  | C    |      | 0.01102 |
| rs11579937 |         | 203874755  | A    |      | 0.01268 |
| rs11581303 |         | 203874776  | C    |      | 0.00900 |
| rs1620334  |         | 203964468  | C    |      | 0.01481 |
| rs2802809  |         | 203964668  | C    |      | 0.01102 |
| rs11579937 |         | 203874755  | A    |      | 0.01268 |
| rs11581303 |         | 203874776  | C    |      | 0.00900 |
| rs1620334  |         | 203964468  | C    |      | 0.01481 |
| rs2802809  |         | 203964668  | C    |      | 0.01102 |
| rs11579937 |         | 203874755  | A    |      | 0.01268 |
| rs11581303 |         | 203874776  | C    |      | 0.00900 |
| rs1620334  |         | 203964468  | C    |      | 0.01481 |
| rs2802809  |         | 203964668  | C    |      | 0.01102 |
| rs11579937 |         | 203874755  | A    |      | 0.01268 |
| rs11581303 |         | 203874776  | C    |      | 0.00900 |
| rs1620334  |         | 203964468  | C    |      | 0.01481 |
| rs2802809  |         | 203964668  | C    |      | 0.01102 |
| rs11579937 |         | 203874755  | A    |      | 0.01268 |
| rs11581303 |         | 203874776  | C    |      | 0.00900 |
| rs1620334  |         | 203964468  | C    |      | 0.01481 |
| rs2802809  |         | 203964668  | C    |      | 0.01102 |
| rs11579937 |         | 203874755  | A    |      | 0.01268 |
| rs11581303 |         | 203874776  | C    |      | 0.00900 |
| rs1620334  |         | 203964468  | C    |      | 0.01481 |
| rs2802809  |         | 203964668  | C    |      | 0.01102 |
| rs11579937 |         | 203874755  | A    |      | 0.01268 |
| rs11581303 |         | 203874776  | C    |      | 0.00900 |
| ID       | Position | Genotype | p-value |
|----------|----------|----------|---------|
| rs562410 | 213205803 | G        | 0.01339 |
| rs1452623| 213231930 | G        | 0.00778 |
| rs1377173| 213265201 | A        | 0.01441 |
| rs4375232| 213337026 | T        | 0.01658 |
| rs12753507| 213446975 | G        | 0.00960 |
| rs946489 | 213482243 | G        | 0.01104 |
| rs10864169| 213484064 | A        | 0.00252 |
| rs4655397| 213484176 | C        | 0.01081 |
| rs41450145| 213537855 | C        | 0.00309 |
| rs10494999| 213562762 | T        | 0.00898 |
| rs1319603| 213698123 | C        | 0.00702 |
| rs17024993| 213863644 | A        | 0.00241 |
| rs6665928 | 213888054 | T        | 0.01594 |
| rs2797260 | 213971280 | A        | 0.00938 |
| rs17025421| 214025279 | A        | 0.00943 |
| rs2764951 | 214173592 | G        | 0.00646 |
| rs503150  | 214181449 | G        | 0.00074 |
| rs654702  | 214184195 | T        | 0.01582 |
| rs531780  | 214184463 | T        | 0.01536 |
| rs7541086 | 214242873 | A        | 0.00293 |
| rs11117633| 214859942 | T        | 0.01186 |
| rs12023399| 214886050 | G        | 0.00997 |
| rs946472  | 215009637 | G        | 0.00653 |
| rs12029460| 215131484 | T        | 0.01174 |
| rs1166338 | 215360953 | C        | 0.00831 |
| rs10863311| 215464806 | A        | 0.00642 |
| rs17653435| 215499147 | C        | 0.00165 |
| rs10495053| 215538967 | G        | 0.00476 |
| rs2998901 | 215723760 | T        | 0.00474 |
| rs4634972 | 216189142 | C        | 3.95900 |
| rs17047350| 216319175 | A        | 0.00573 |
| rs10157529| 216330493 | C        | 0.01520 |
| rs259478  | 216811787 | A        | 0.00497 |
| rs259474  | 216826606 | T        | 0.00668 |
| rs17048238| 216828304 | G        | 0.01423 |
| rs4846281 | 217079925 | T        | 0.00109 |
| rs653734  | 217087235 | C        | 0.00450 |
| rs17515844| 217114604 | C        | 0.00222 |
| rs1598472 | 217638142 | G        | 0.00361 |
| rs2791561 | 217658032 | C        | 0.00480 |
| rs2050802 | 217714276 | C        | 0.00106 |
| rs1776049 | 218109946 | C        | 0.00303 |
| rs2647438 | 218218874 | T        | 0.00199 |
| rs11118490| 218276896 | T        | 0.00462 |
| SNP          | Chromosome Position | Allele | P-value |
|--------------|---------------------|--------|---------|
| rs3767324    | 1                   | A      | 0.00698 |
| rs11118609   | 1                   | C      | 0.00440 |
| rs1993629    | 1                   | A      | 0.01553 |
| rs17010134   | 1                   | T      | 0.01055 |
| rs12126069   | 1                   | G      | 0.00401 |
| rs1111868    | 1                   | A      | 0.00320 |
| rs4846728    | 1                   | T      | 0.00038 |
| rs11118609   | 1                   | C      | 0.00440 |
| rs1993629    | 1                   | A      | 0.01553 |
| rs17010134   | 1                   | T      | 0.01055 |
| rs12126069   | 1                   | G      | 0.00401 |
| rs1111868    | 1                   | A      | 0.00320 |
| rs4846728    | 1                   | T      | 0.00038 |
| rs11118609   | 1                   | C      | 0.00440 |
| rs1993629    | 1                   | A      | 0.01553 |
| rs17010134   | 1                   | T      | 0.01055 |
| rs12126069   | 1                   | G      | 0.00401 |
| rs1111868    | 1                   | A      | 0.00320 |
| rs4846728    | 1                   | T      | 0.00038 |
| rs11118609   | 1                   | C      | 0.00440 |
| rs1993629    | 1                   | A      | 0.01553 |
| rs17010134   | 1                   | T      | 0.01055 |
| rs12126069   | 1                   | G      | 0.00401 |
| rs1111868    | 1                   | A      | 0.00320 |
| rs4846728    | 1                   | T      | 0.00038 |
| rs11118609   | 1                   | C      | 0.00440 |
| rs1993629    | 1                   | A      | 0.01553 |
| rs17010134   | 1                   | T      | 0.01055 |
| rs12126069   | 1                   | G      | 0.00401 |
| rs1111868    | 1                   | A      | 0.00320 |
| rs4846728    | 1                   | T      | 0.00038 |
| SNP      | Gen       | Chromosome | Position | Allele  | MAF  |
|----------|-----------|------------|----------|---------|------|
| rs7520640 | 1         | 228295603  | G        | 10.23700|
| rs12751815| 1         | 228309203  | G        | 0.00644 |
| rs7531145 | 1         | 228506644  | G        | 0.01562 |
| rs9431872 | 1         | 229085564  | G        | 0.00837 |
| rs9431649 | 1         | 229345408  | G        | 0.00725 |
| rs17817356| 1         | 229986844  | T        | 0.00268 |
| rs9803690 | 1         | 229989968  | T        | 0.01130 |
| rs7531145 | 1         | 228506644  | G        | 0.01562 |
| rs9431872 | 1         | 229085564  | G        | 0.00837 |
| rs9431649 | 1         | 229345408  | G        | 0.00725 |
| rs17817356| 1         | 229986844  | T        | 0.00268 |
| rs9803690 | 1         | 229989968  | T        | 0.01130 |
| rs12403846| 1         | 230195957  | A        | 0.01374 |
| rs914272  | 1         | 230384738  | G        | 0.00330 |
| rs12403846| 1         | 230195957  | A        | 0.01374 |
| rs7520640 | 1         | 228295603  | G        | 10.23700|
| rs12751815| 1         | 228309203  | G        | 0.00644 |
| rs7531145 | 1         | 228506644  | G        | 0.01562 |
| rs9431872 | 1         | 229085564  | G        | 0.00837 |
| rs9431649 | 1         | 229345408  | G        | 0.00725 |
| rs17817356| 1         | 229986844  | T        | 0.00268 |
| rs9803690 | 1         | 229989968  | T        | 0.01130 |
| rs7520640 | 1         | 228295603  | G        | 10.23700|
| rs12751815| 1         | 228309203  | G        | 0.00644 |
| rs7531145 | 1         | 228506644  | G        | 0.01562 |
| rs9431872 | 1         | 229085564  | G        | 0.00837 |
| rs9431649 | 1         | 229345408  | G        | 0.00725 |
| rs17817356| 1         | 229986844  | T        | 0.00268 |
| rs9803690 | 1         | 229989968  | T        | 0.01130 |
| rs7520640 | 1         | 228295603  | G        | 10.23700|
| rs12751815| 1         | 228309203  | G        | 0.00644 |
| rs7531145 | 1         | 228506644  | G        | 0.01562 |
| rs9431872 | 1         | 229085564  | G        | 0.00837 |
| rs9431649 | 1         | 229345408  | G        | 0.00725 |
| rs17817356| 1         | 229986844  | T        | 0.00268 |
| rs9803690 | 1         | 229989968  | T        | 0.01130 |
| rs7520640 | 1         | 228295603  | G        | 10.23700|
| rs12751815| 1         | 228309203  | G        | 0.00644 |
| rs7531145 | 1         | 228506644  | G        | 0.01562 |
| rs9431872 | 1         | 229085564  | G        | 0.00837 |
| rs9431649 | 1         | 229345408  | G        | 0.00725 |
| rs17817356| 1         | 229986844  | T        | 0.00268 |
| rs9803690 | 1         | 229989968  | T        | 0.01130 |
| rs7520640 | 1         | 228295603  | G        | 10.23700|
| rs12751815| 1         | 228309203  | G        | 0.00644 |
| rs7531145 | 1         | 228506644  | G        | 0.01562 |
| rs9431872 | 1         | 229085564  | G        | 0.00837 |
| rs9431649 | 1         | 229345408  | G        | 0.00725 |
| rs17817356| 1         | 229986844  | T        | 0.00268 |
| rs9803690 | 1         | 229989968  | T        | 0.01130 |
| rs7520640 | 1         | 228295603  | G        | 10.23700|
| rs12751815| 1         | 228309203  | G        | 0.00644 |
| rs7531145 | 1         | 228506644  | G        | 0.01562 |
| rs9431872 | 1         | 229085564  | G        | 0.00837 |
| rs9431649 | 1         | 229345408  | G        | 0.00725 |
| rs17817356| 1         | 229986844  | T        | 0.00268 |
| rs9803690 | 1         | 229989968  | T        | 0.01130 |
| rs7520640 | 1         | 228295603  | G        | 10.23700|
| rs12751815| 1         | 228309203  | G        | 0.00644 |
| rs7531145 | 1         | 228506644  | G        | 0.01562 |
| rs9431872 | 1         | 229085564  | G        | 0.00837 |
| rs9431649 | 1         | 229345408  | G        | 0.00725 |
| rs17817356| 1         | 229986844  | T        | 0.00268 |
| rs9803690 | 1         | 229989968  | T        | 0.01130 |
| rs SNP | Chromosome Position | Allele | p-Value |
|-------|---------------------|--------|---------|
| rs10925714 | 1 236850019 | C | 0.01533 |
| rs16838201 | 1 237535179 | A | 0.01432 |
| rs10925884 | 1 237535179 | G | 0.00758 |
| rs10802776 | 1 237816943 | T | 0.00236 |
| rs997538 | 1 237823815 | G | 0.00335 |
| rs10754690 | 1 238294812 | C | 0.01021 |
| rs10495460 | 1 238417864 | G | 0.00904 |
| rs16840310 | 1 238760786 | A | 0.01225 |
| rs527754 | 1 239262629 | G | 0.01174 |
| rs11577475 | 1 239288760 | A | 0.00289 |
| rs4400595 | 1 239442770 | T | 0.01235 |
| rs4659598 | 1 239557424 | T | 0.00811 |
| rs7512603 | 1 239561201 | T | 0.00614 |
| rs9428505 | 1 239640170 | A | 0.01348 |
| rs10802963 | 1 239640279 | A | 0.01334 |
| rs4660095 | 1 239706677 | A | 0.00169 |
| rs12737686 | 1 239951352 | T | 0.01322 |
| rs12564134 | 1 240077688 | T | 0.00308 |
| rs2580238 | 1 240628728 | T | 0.01007 |
| rs2809985 | 1 240629344 | G | 0.01028 |
| rs10926758 | 1 240741355 | T | 0.01205 |
| rs1931054 | 1 240936508 | T | 0.00475 |
| rs2027047 | 1 240977688 | T | 0.00308 |
| rs7551067 | 1 241673202 | A | 0.01652 |
| rs10927025 | 1 241705841 | A | 0.00085 |
| rs2994339 | 1 241708043 | G | 0.01416 |
| rs4658574 | 1 241717339 | G | 0.00828 |
| rs484459 | 1 242190014 | C | 0.01149 |
| rs1000451 | 1 242254470 | G | 0.01180 |
| rs2500493 | 1 242320392 | G | 0.00171 |
| rs10927144 | 1 242376403 | C | 0.01142 |
| rs6429453 | 1 242423341 | T | 0.01450 |
| rs9659003 | 1 242477264 | A | 0.01141 |
| rs640753 | 1 242563962 | T | 0.01472 |
| rs658757 | 1 242566392 | G | 0.00094 |
| rs6429486 | 1 242813674 | C | 0.00189 |
| rs4658693 | 1 243305965 | A | 0.00326 |
| rs10924173 | 1 243557263 | T | 0.01575 |
| rs1538961 | 1 243893600 | C | 0.00332 |
| rs2817509 | 1 243991700 | C | 0.01454 |
| rs10802267 | 1 243996723 | C | 0.00850 |
| rs2362590 | 1 244087583 | G | 0.00994 |
| rs10924366 | 1 244094033 | G | 0.00672 |
| rs10924436 | 1 244225114 | G | 0.01462 |
| SNP         | Chromosome | Position | Allele | P-value |
|-------------|------------|----------|--------|---------|
| rs6686745   | 1          | 244348150| G      | 0.00438 |
| rs10924848  | 1          | 245059321| G      | 0.01645 |
| rs10924850  | 1          | 245059590| G      | 0.00301 |
| rs2255481   | 1          | 245263162| G      | 0.01341 |
| rs1954187   | 1          | 245591586| C      | 0.00041 |
| rs11802371  | 1          | 245609461| G      | 0.00802 |
| rs7555997   | 1          | 245613957| A      | 0.00419 |
| rs17338428  | 2          | 2213121  | G      | 0.00543 |
| rs13388296  | 2          | 2286611  | C      | 0.00140 |
| rs10177243  | 2          | 2420158  | C      | 0.00755 |
| rs4853940   | 2          | 2426972  | C      | 0.01044 |
| rs4853937   | 2          | 2443758  | G      | 0.00173 |
| rs6728339   | 2          | 2474739  | C      | 0.00555 |
| rs17495118  | 2          | 2691627  | G      | 0.01383 |
| rs9309697   | 2          | 2719909  | A      | 0.00081 |
| rs6754030   | 2          | 3063957  | A      | 0.00591 |
| rs17018595  | 2          | 4120296  | A      | 0.00354 |
| rs12712003  | 2          | 4527222  | A      | 0.00806 |
| rs750482    | 2          | 3088347  | A      | 0.00323 |
| rs2167967   | 2          | 3138767  | C      | 0.01220 |
| rs4854187   | 2          | 3363203  | G      | 0.00499 |
| rs9750132   | 2          | 3488694  | T      | 0.00129 |
| rs1852317   | 2          | 4903505  | T      | 0.00200 |
| rs41325248  | 2          | 5263872  | A      | 0.01521 |
| rs7425362   | 2          | 5849348  | T      | 0.00399 |
| rs10929889  | 2          | 5960645  | G      | 0.01103 |
| rs2693822   | 2          | 6083374  | G      | 0.00954 |
| rs1852317   | 2          | 6144872  | G      | 0.00469 |
| rs16865015  | 2          | 6346425  | T      | 0.01215 |
| rs4337447   | 2          | 6352038  | T      | 0.00777 |
| rs12478619  | 2          | 6648243  | A      | 0.01451 |
| rs6749132   | 2          | 6655887  | T      | 0.01400 |
| rs4669090   | 2          | 6703172  | G      | 0.00500 |
| rs6761066   | 2          | 6705721  | A      | 0.00049 |
| rs7564462   | 2          | 6712276  | C      | 0.00240 |
| rs           | Chr | Pos      | Allele | P     |
|--------------|-----|----------|--------|-------|
| rs307972     | 2   | 6757301  | C      | 0.00573 |
| rs182537     | 2   | 6775281  | G      | 0.00365 |
| rs379656     | 2   | 6777986  | T      | 0.01268 |
| rs1123341    | 2   | 6990174  | T      | 0.00085 |
| rs3772018    | 2   | 7015216  | T      | 0.01060 |
| rs771256     | 2   | 7032516  | C      | 0.00158 |
| rs4669123    | 2   | 7033528  | A      | 0.00614 |
| rs4669156    | 2   | 7268367  | A      | 0.00671 |
| rs10205728   | 2   | 7333712  | T      | 0.00044 |
| rs11682970   | 2   | 7394637  | T      | 0.01053 |
| rs6721439    | 2   | 7532321  | C      | 0.01335 |
| rs41434549   | 2   | 7808927  | C      | 0.00485 |
| rs3097278    | 2   | 8393065  | A      | 0.01451 |
| rs2655450    | 2   | 8488590  | T      | 0.00821 |
| rs1966049    | 2   | 8503550  | C      | 0.00227 |
| rs6735600    | 2   | 8514325  | A      | 0.00993 |
| rs7581641    | 2   | 8543557  | T      | 0.01331 |
| rs345905     | 2   | 8607709  | G      | 0.00136 |
| rs10432404   | 2   | 8688612  | A      | 0.00359 |
| rs11691910   | 2   | 8703783  | T      | 0.01627 |
| rs4669321    | 2   | 8705870  | G      | 0.00610 |
| rs2175334    | 2   | 9195063  | C      | 0.00748 |
| rs11684747   | 2   | 9614622  | A      | 0.01014 |
| rs12479251   | 2   | 9967149  | A      | 0.01133 |
| rs17364189   | 2   | 9982242  | G      | 0.01461 |
| rs6708630    | 2   | 10143258 | A      | 0.00524 |
| rs6432097    | 2   | 10513029 | G      | 0.00608 |
| rs2270308    | 2   | 10592822 | T      | 0.01021 |
| rs2952626    | 2   | 10846228 | T      | 0.00027 |
| rs1317768    | 2   | 10942071 | G      | 0.00994 |
| rs4669647    | 2   | 10981799 | G      | 0.00451 |
| rs10178469   | 2   | 11053254 | G      | 0.01644 |
| rs11677588   | 2   | 11107300 | C      | 0.00991 |
| rs7602665    | 2   | 11478414 | G      | 0.01525 |
| rs643597     | 2   | 11479223 | C      | 0.01128 |
| rs6432193    | 2   | 11501448 | G      | 0.00118 |
| rs12052681   | 2   | 11758552 | G      | 0.01304 |
| rs13407481   | 2   | 11761158 | C      | 0.01512 |
| rs2581084    | 2   | 11986833 | G      | 0.01117 |
| rs17547925   | 2   | 12025884 | C      | 0.01315 |
| rs1595808    | 2   | 12028711 | A      | 0.01177 |
| rs10210269   | 2   | 12061486 | G      | 0.01328 |
| rs10929783   | 2   | 12118548 | G      | 0.00570 |
| rs11695912   | 2   | 12158473 | T      | 0.00498 |
| SNP          | Chromosome | Position     | Allele | P-value |
|--------------|------------|--------------|--------|---------|
| rs6720015    | 2          | 12188138     | A      | 0.00699 |
| rs6728621    | 2          | 12190544     | A      | 0.00585 |
| rs10929811   | 2          | 12512866     | T      | 0.00540 |
| rs10164960   | 2          | 12882610     | A      | 0.01336 |
| rs10929837   | 2          | 13012151     | T      | 0.00675 |
| rs1588477    | 2          | 13809543     | G      | 0.01245 |
| rs7577198    | 2          | 13853831     | G      | 0.01607 |
| rs16861003   | 2          | 14002922     | C      |          |
| rs16861564   | 2          | 14358541     | T      | 0.00912 |
| rs17344070   | 2          | 14405331     | C      | 17.83400 |
| rs1976727    | 2          | 14475445     | C      | 0.00217 |
| rs9287779    | 2          | 14536142     | C      | 0.00231 |
| rs10164960   | 2          | 1460289      | C      | 0.00345 |
| rs1607445    | 2          | 14898745     | G      | 0.00773 |
| rs10185181   | 2          | 15111625     | T      | 0.00993 |
| rs12466657   | 2          | 15111754     | A      | 0.00068 |
| rs1430804    | 2          | 15112010     | T      | 0.00345 |
| rs6734918    | 2          | 15322218     | G      | 0.00152 |
| rs11904632   | 2          | 15323495     | C      | 0.01252 |
| rs6431692    | 2          | 15395815     | G      | 0.01204 |
| rs6723148    | 2          | 15509470     | T      | 0.01651 |
| rs16862882   | 2          | 15726083     | G      | 0.00476 |
| rs2254328    | 2          | 15948018     | A      | 0.00765 |
| rs746104     | 2          | 15948478     | T      | 0.00139 |
| rs4832592    | 2          | 16472596     | A      | 0.00899 |
| rs6729772    | 2          | 16519793     | C      | 0.00069 |
| rs12620192   | 2          | 16900801     | T      | 0.00791 |
| rs12472889   | 2          | 17024563     | C      | 0.01264 |
| rs7602480    | 2          | 17129381     | C      | 0.00366 |
| rs1996609    | 2          | 17518083     | G      | 0.00150 |
| rs300177     | 2          | 17817902     | C      | 0.01279 |
| rs10176010   | 2          | 17901246     | T      | 0.00041 |
| rs17317047   | 2          | 18198825     | C      | 0.00228 |
| rs16984718   | 2          | 18372735     | T      | 0.00383 |
| rs17752832   | 2          | 18667353     | G      | 0.01590 |
| rs16985416   | 2          | 18729707     | A      | 0.00403 |
| rs10856784   | 2          | 18998937     | G      | 0.01150 |
| rs12991182   | 2          | 19537355     | G      | 0.00546 |
| rs12472768   | 2          | 19765163     | G      | 0.01097 |
| rs12464329   | 2          | 19825202     | G      | 0.01204 |
| rs1466418    | 2          | 20138384     | T      | 0.01336 |
| rs10178084   | 2          | 20138874     | G      | 0.01239 |
| rs1032075    | 2          | 20454604     | C      | 0.01586 |
| rs1531851    | 2          | 20557603     | T      | 0.00191 |
| rs7568542 | 2 | 20582722 | G | 0.01197 |
| rs921602  | 2 | 20670006 | T | 0.00077 |
| rs9306894 | 2 | 20741586 | G | 0.00064 |
| rs1595328 | 2 | 20772248 | A | 0.00048 |
| rs581998  | 2 | 21173986 | C | 0.01439 |
| rs11687710| 2 | 21224573 | A | 0.00664 |
| rs527034  | 2 | 21236291 | A | 0.01550 |
| rs478442  | 2 | 21252721 | A | 0.01400 |
| rs9306894 | 2 | 20741586 | G | 0.00064 |
| rs1595328 | 2 | 20772248 | A | 0.00048 |
| rs581998  | 2 | 21173986 | C | 0.01439 |
| rs11687710| 2 | 21224573 | A | 0.00664 |
| rs527034  | 2 | 21236291 | A | 0.01550 |
| rs478442  | 2 | 21252721 | A | 0.01400 |
| rs1595328 | 2 | 20772248 | A | 0.00048 |
| rs581998  | 2 | 21173986 | C | 0.01439 |
| rs11687710| 2 | 21224573 | A | 0.00664 |
| rs527034  | 2 | 21236291 | A | 0.01550 |
| rs478442  | 2 | 21252721 | A | 0.01400 |
| rs1595328 | 2 | 20772248 | A | 0.00048 |
| rs581998  | 2 | 21173986 | C | 0.01439 |
| rs11687710| 2 | 21224573 | A | 0.00664 |
| rs527034  | 2 | 21236291 | A | 0.01550 |
| rs478442  | 2 | 21252721 | A | 0.01400 |
| rs1595328 | 2 | 20772248 | A | 0.00048 |
| rs581998  | 2 | 21173986 | C | 0.01439 |
| rs11687710| 2 | 21224573 | A | 0.00664 |
| rs527034  | 2 | 21236291 | A | 0.01550 |
| rs478442  | 2 | 21252721 | A | 0.01400 |
| rs1595328 | 2 | 20772248 | A | 0.00048 |
| rs581998  | 2 | 21173986 | C | 0.01439 |
| rs11687710| 2 | 21224573 | A | 0.00664 |
| rs527034  | 2 | 21236291 | A | 0.01550 |
| rs478442  | 2 | 21252721 | A | 0.01400 |
| rs1595328 | 2 | 20772248 | A | 0.00048 |
| rs581998  | 2 | 21173986 | C | 0.01439 |
| rs11687710| 2 | 21224573 | A | 0.00664 |
| rs527034  | 2 | 21236291 | A | 0.01550 |
| rs478442  | 2 | 21252721 | A | 0.01400 |
| rs1595328 | 2 | 20772248 | A | 0.00048 |
| rs581998  | 2 | 21173986 | C | 0.01439 |
| rs11687710| 2 | 21224573 | A | 0.00664 |
| rs527034  | 2 | 21236291 | A | 0.01550 |
| rs478442  | 2 | 21252721 | A | 0.01400 |
| rs1595328 | 2 | 20772248 | A | 0.00048 |
| rs581998  | 2 | 21173986 | C | 0.01439 |
| rs11687710| 2 | 21224573 | A | 0.00664 |
| rs527034  | 2 | 21236291 | A | 0.01550 |
| rs478442  | 2 | 21252721 | A | 0.01400 |
| rs1595328 | 2 | 20772248 | A | 0.00048 |
| SNP          | ID    | Chromosome | Position | Allele | p-value |
|--------------|-------|------------|----------|--------|---------|
| rs4473347    | 2     | 29928397   | A        | 0.00323|
| rs2363078    | 2     | 30733791   | A        | 0.01254|
| rs2609938    | 2     | 30758021   | T        | 0.00069|
| rs17010034   | 2     | 30785891   | C        | 0.00410|
| rs2593435    | 2     | 30811184   | G        | 0.01405|
| rs6548031    | 2     | 30838175   | A        | 0.01397|
| rs10193546   | 2     | 31168918   | A        | 0.00320|
| rs206817     | 2     | 31498796   | C        | 0.00200|
| rs10490358   | 2     | 31935601   | G        | 0.00339|
| rs12620887   | 2     | 32041433   | T        | 0.01511|
| rs2034693    | 2     | 33476810   | A        | 0.00612|
| rs17013337   | 2     | 33635685   | T        | 0.00070|
| rs897506     | 2     | 33640016   | A        | 0.00814|
| rs12465811   | 2     | 3477300    | G        | 0.00414|
| rs2063403    | 2     | 36082617   | C        | 0.01175|
| rs2020037    | 2     | 36127335   | G        | 0.00184|
| rs305163     | 2     | 36163166   | T        | 0.00972|
| rs11674150   | 2     | 36300985   | T        | 0.00384|
| rs3770866    | 2     | 36543597   | G        | 0.00295|
| rs848534     | 2     | 36543746   | C        | 0.01307|
| rs2160334    | 2     | 36900857   | A        | 0.00560|
| rs2540998    | 2     | 37108519   | T        | 0.00788|
| rs6724538    | 2     | 37581522   | C        | 0.00276|
| rs4430920    | 2     | 37611381   | G        | 0.00759|
| rs4538180    | 2     | 37616264   | T        | 0.00267|
| rs4670214    | 2     | 37858552   | C        | 0.01661|
| rs7588747    | 2     | 37891324   | A        | 0.00306|
| rs7604914    | 2     | 38104966   | C        | 0.00182|
| rs336034     | 2     | 38116617   | A        | 0.01319|
| rs7571015    | 2     | 38325002   | G        | 0.01266|
| rs1027880    | 2     | 38479811   | G        | 0.01273|
| rs17022684   | 2     | 38527042   | C        | 0.01348|
| rs6544186    | 2     | 39079775   | A        | 0.00246|
| rs7595469    | 2     | 39385585   | T        | 0.01416|
| rs6727511    | 2     | 39952885   | A        | 0.01263|
| rs17026012   | 2     | 40516922   | T        | 0.01339|
| rs11124763   | 2     | 40891407   | C        | 0.01243|
| rs6544381    | 2     | 41130008   | C        | 0.00236|
| rs6750424    | 2     | 41414230   | G        | 0.01584|
| SNP         | Chromosome | Position | Allele | p-value |
|-------------|------------|----------|--------|---------|
| rs1976556   |            | 41422995 | G      | 0.00180 |
| rs6544414   |            | 41468994 | G      | 0.00043 |
| rs13006557  |            | 41702339 | C      | 0.00302 |
| rs7603589   |            | 41871478 | G      | 0.00451 |
| rs7599972   |            | 41894842 | T      | 0.00382 |
| rs10193285  |            | 41896380 | T      | 0.00157 |
| rs2374382   |            | 41909614 | G      | 0.01119 |
| rs11692115  |            | 41922400 | C      | 0.01046 |
| rs2374382   |            | 42108584 | A      | 0.00223 |
| rs4952399   |            | 42142611 | A      | 0.01549 |
| rs13383145  |            | 42158635 | A      | 0.01332 |
| rs4408769   |            | 42949290 | A      | 0.00689 |
| rs6722743   |            | 42949492 | T      | 0.01598 |
| rs10176316  |            | 43052815 | T      | 0.00999 |
| rs4608578   |            | 43106353 | C      | 0.00851 |
| rs10205111  |            | 43126816 | G      | 0.00678 |
| rs2052923   |            | 43265324 | C      | 0.00325 |
| rs6544630   |            | 43277954 | T      | 0.01058 |
| rs1873555   |            | 43633169 | G      | 0.00194 |
| rs6731009   |            | 43656932 | C      | 0.00980 |
| rs11890152  |            | 43660872 | G      | 0.01349 |
| rs10179648  |            | 43661569 | G      | 0.01235 |
| rs4245791   |            | 43927935 | A      | 0.01010 |
| rs13008237  |            | 44258406 | G      | 0.00292 |
| rs5024499   |            | 44300435 | A      | 0.01540 |
| rs17032205  |            | 44510128 | T      | 0.01651 |
| rs17322370  |            | 45592549 | C      | 0.01073 |
| rs10427402  |            | 45597896 | A      | 0.01291 |
| rs748573    |            | 45623898 | G      | 0.01174 |
| rs656823    |            | 45780894 | G      | 0.01184 |
| rs4952771   |            | 45852620 | C      | 0.01220 |
| rs4953288   |            | 45979475 | C      | 0.00750 |
| rs2278777   |            | 46225158 | C      | 0.00268 |
| rs1530628   |            | 46524445 | G      | 0.01589 |
| rs12622818  |            | 46530064 | C      | 0.01086 |
| rs3087857   |            | 46999550 | A      | 0.01274 |
| rs6544968   |            | 47230176 | C      | 0.01439 |
| rs10153674  |            | 47254462 | T      | 0.00207 |
| rs13422681  |            | 47313716 | A      | 0.00066 |
| rs17503541  |            | 47661656 | A      | 0.00064 |
| rs874869    |            | 47947841 | C      | 0.00514 |
| rs4146603   |            | 48253519 | C      | 0.00957 |
| rs          | Chromosome | Position       | Allele | Value  |
|-------------|------------|----------------|--------|--------|
| rs17037298  | 2          | 48445706       | G      | 0.01286|
| rs1404052   | 2          | 48764516       | G      | 0.00523|
| rs13427781  | 2          | 49245995       | G      | 0.00914|
| rs6545137   | 2          | 50067182       | A      | 0.00485|
| rs10197380  | 2          | 50561680       | C      | 0.00420|
| rs1014428   | 2          | 50589711       | C      | 0.01553|
| rs1919424   | 2          | 51588583       | G      | 0.01149|
| rs1997160   | 2          | 52556920       | G      | 0.00514|
| rs41372250  | 2          | 52585423       | G      | 0.01434|
| rs350795    | 2          | 52765124       | C      | 0.01648|
| rs10490580  | 2          | 52909400       | G      | 0.01321|
| rs6746666   | 2          | 52942850       | T      | 0.01031|
| rs1446439   | 2          | 53072707       | G      | 0.00099|
| rs992874    | 2          | 53385960       | G      | 0.01645|
| rs6714458   | 2          | 53473610       | A      | 0.00488|
| rs6747724   | 2          | 53528203       | G      | 0.00150|
| rs3213775   | 2          | 54003741       | G      | 0.01197|
| rs1727522   | 2          | 54263682       | A      | 0.00559|
| rs843632    | 2          | 54399097       | G      | 0.00201|
| rs4261758   | 2          | 54623147       | G      | 0.01603|
| rs12713265  | 2          | 54658913       | C      | 0.00915|
| rs10196667  | 2          | 55036454       | C      | 0.00277|
| rs2580770   | 2          | 55085416       | G      | 0.01302|
| rs1133182   | 2          | 55255729       | G      | 0.00228|
| rs4484068   | 2          | 55387690       | C      | 0.01122|
| rs11899888  | 2          | 55956248       | A      | 0.00491|
| rs13397916  | 2          | 56104751       | G      | 0.00658|
| rs6749100   | 2          | 56291693       | T      | 0.01099|
| rs214047    | 2          | 56344184       | C      | 0.00130|
| rs10168390  | 2          | 56442719       | T      | 0.00517|
| rs1465360   | 2          | 56541768       | G      | 0.00311|
| rs13382678  | 2          | 56542552       | A      | 0.01098|
| rs10208385  | 2          | 56631513       | A      | 0.00138|
| rs1991185   | 2          | 56651833       | G      | 0.01341|
| rs6741957   | 2          | 56931249       | T      | 0.01230|
| rs4672171   | 2          | 56973220       | G      | 0.01223|
| rs12478403  | 2          | 57151802       | C      | 0.00243|
| rs2311314   | 2          | 57586041       | C      | 0.00648|
| rs6545656   | 2          | 57621291       | C      | 0.00497|
| rs1350691   | 2          | 57784475       | T      | 0.00530|
| rs13399274  | 2          | 58376084       | G      | 0.00453|
| rs4672238   | 2          | 58472642       | G      | 0.00955|
| rs4672240   | 2          | 58503859       | C      | 0.01239|
| rs10179027  | 2          | 58505942       | T      | 2.63800|
| rs1     | Start Position | Allele | p-value |
|---------|----------------|---------|---------|
| rs6759994 | 58517880       | A       | 8.86200 |
| rs1019283 | 58519124       | A       | 0.00723 |
| rs7419776 | 58706520       | A       | 0.01660 |
| rs4672251 | 58711046       | C       | 0.01561 |
| rs17614872| 58767709       | C       | 0.00031 |
| rs4671330 | 58896351       | A       | 0.01479 |
| rs1990588 | 58948113       | C       | 0.01332 |
| rs11679178| 59401559       | G       | 0.00368 |
| rs17050481| 59980113       | A       | 0.00978 |
| rs4672337 | 60070597       | T       | 0.00977 |
| rs887930  | 60187236       | T       | 0.01318 |
| rs6714188 | 60201921       | G       | 0.00723 |
| rs13420896| 60204549       | G       | 0.01578 |
| rs13411643| 60204636       | C       | 0.01103 |
| rs13427381| 60205897       | T       | 0.00451 |
| rs4671378 | 60347816       | C       | 0.00935 |
| rs11688740| 60391494       | G       | 0.00451 |
| rs888082  | 60483113       | C       | 0.00485 |
| rs10445937| 60491160       | G       | 0.00331 |
| rs7593947 | 60558437       | A       | 0.00626 |
| rs2290324 | 61302280       | C       | 0.01303 |
| rs10518958| 62130477       | A       | 0.00257 |
| rs4528740 | 62552513       | G       | 0.00622 |
| rs6545961 | 62667670       | T       | 0.00540 |
| rs6545963 | 62676395       | T       | 0.00296 |
| rs6752010 | 62712546       | C       | 0.01286 |
| rs10177638| 62740514       | C       | 0.00671 |
| rs6757128 | 62745256       | T       | 0.00452 |
| rs11899693| 64024923       | C       | 0.00002 |
| rs1529102 | 64349131       | T       | 0.01248 |
| rs2555445 | 64388785       | A       | 0.00294 |
| rs1861402 | 64733367       | C       | 0.00181 |
| rs2422282 | 64753358       | A       | 0.01289 |
| rs6736527 | 64806767       | T       | 0.00002 |
| rs6743585 | 65409224       | G       | 0.00907 |
| rs3845822 | 65937700       | T       | 0.00400 |
| rs1484475 | 66061623       | A       | 0.00770 |
| rs2971826 | 66410740       | G       | 0.00580 |
| rs6546227 | 66470568       | T       | 0.01044 |
| rs2300478 | 66634957       | C       | 0.00200 |
| rs17630500| 66857427       | G       | 0.01541 |
| SNP          | Chromosome | Position   | Allele | P-value |
|--------------|------------|------------|--------|---------|
| rs10519086   | 2          | 67116150   | A      | 0.01623 |
| rs10202108   | 2          | 67578542   | C      | 0.01125 |
| rs1607904    | 2          | 67611284   | T      | 0.01075 |
| rs6546313    | 2          | 67625132   | C      | 0.01087 |
| rs4591326    | 2          | 67707461   | G      | 0.01490 |
| rs10490726   | 2          | 67720046   | T      | 0.00789 |
| rs11126163   | 2          | 67941672   | C      | 0.00137 |
| rs872108     | 2          | 67997099   | A      | 0.00909 |
| rs4605401    | 2          | 68964520   | G      | 0.00384 |
| rs17036182   | 2          | 68965530   | C      | 0.00857 |
| rs4417751    | 2          | 69055398   | G      | 0.01284 |
| rs722265     | 2          | 69835595   | T      | 0.01629 |
| rs7597199    | 2          | 70195079   | G      | 0.01307 |
| rs4853334    | 2          | 70214454   | G      | 0.01400 |
| rs13394815   | 2          | 70417506   | A      | 0.01000 |
| rs6546602    | 2          | 70494258   | A      | 0.00702 |
| rs516383     | 2          | 70517615   | C      | 0.00560 |
| rs2461861    | 2          | 70517893   | C      | 0.01453 |
| rs11890652   | 2          | 70523791   | A      | 0.01084 |
| rs1523305    | 2          | 70552364   | A      | 0.01570 |
| rs11903352   | 2          | 70718658   | A      | 0.01416 |
| rs1859919    | 2          | 70718791   | A      | 0.01480 |
| rs1859920    | 2          | 70719422   | A      | 0.01275 |
| rs6713842    | 2          | 70725313   | C      | 0.00539 |
| rs2108479    | 2          | 70727597   | A      | 0.00924 |
| rs12617676   | 2          | 70732192   | A      | 0.01485 |
| rs6735921    | 2          | 70877919   | T      | 0.00150 |
| rs6546693    | 2          | 71534140   | G      | 0.00052 |
| rs13431785   | 2          | 71546325   | C      | 0.01444 |
| rs4536672    | 2          | 71567731   | T      | 0.01082 |
| rs17007070   | 2          | 71647874   | G      | 0.00014 |
| rs1529409    | 2          | 71684197   | T      | 0.00490 |
| rs908611     | 2          | 72031795   | G      | 0.01603 |
| rs6752766    | 2          | 72041872   | C      | 0.01202 |
| rs6760964    | 2          | 73240894   | G      | 0.01469 |
| rs7607014    | 2          | 73583682   | T      | 0.00877 |
| rs12713810   | 2          | 74173770   | C      | 0.00482 |
| rs7572066    | 2          | 74219540   | G      | 0.01112 |
| rs3099820    | 2          | 74267259   | T      | 0.00074 |
| rs9309484    | 2          | 74440319   | G      | 0.01269 |
| rs6723379    | 2          | 74469370   | C      | 0.01071 |
| rs3025979    | 2          | 74701323   | T      | 0.01094 |
| rs7574100    | 2          | 74844393   | G      | 0.00934 |
| rs6546923    | 2          | 74865835   | G      | 0.01535 |
| SNP    | Chr | Position | Ref | Alt | Minor Allele Frequency |
|--------|-----|----------|-----|-----|------------------------|
| rs3821317 | 2   | 75240319 | G   |     | 0.00948                |
| rs2216104 | 2   | 75526992 | C   |     | 0.01459                |
| rs1158392 | 2   | 75564253 | T   |     | 0.00679                |
| rs10175794 | 2  | 75646134 | A   |     | 0.01249                |
| rs1049678 | 2   | 75736164 | G   |     | 0.00793                |
| rs3213670 | 2   | 75746345 | T   |     | 0.00147                |
| rs6751526 | 2   | 75974112 | A   |     | 0.01499                |
| rs373745  | 2   | 76103130 | T   |     | 0.01175                |
| rs2049548 | 2   | 76420715 | C   |     | 0.00015                |
| rs10193916 | 2  | 76612596 | T   |     | 0.00162                |
| rs1921254 | 2   | 76615993 | A   |     | 0.01193                |
| rs10195937 | 2  | 76851271 | G   |     | 0.00385                |
| rs12611712 | 2 | 77350750 | T   |     | 0.00614                |
| rs1922817 | 2   | 77566115 | C   |     | 0.01064                |
| rs1516254 | 2   | 78589291 | G   |     | 0.01121                |
| rs6739221 | 2   | 78852724 | G   |     | 0.01061                |
| rs283892  | 2   | 79203764 | A   |     | 0.00354                |
| rs12713984 | 2  | 79438511 | A   |     | 0.01427                |
| rs896372  | 2   | 79486782 | T   |     | 0.01273                |
| rs1367401 | 2   | 79719016 | G   |     | 0.01592                |
| rs713261  | 2   | 79948920 | C   |     | 0.00563                |
| rs1979515 | 2   | 80127741 | C   |     | 0.00566                |
| rs6711603 | 2   | 80429338 | A   |     | 0.00907                |
| rs13936392 | 2  | 80471916 | A   |     | 0.00117                |
| rs1434075 | 2   | 80596705 | A   |     | 0.01189                |
| rs216645  | 2   | 80679222 | A   |     | 0.00868                |
| rs4852603 | 2   | 81143795 | C   |     | 0.00527                |
| rs17020098 | 2  | 81314283 | G   |     | 0.01484                |
| rs11887827 | 2  | 81519665 | T   |     | 0.00080                |
| rs12468325 | 2  | 81544091 | C   |     | 0.00091                |
| rs17659181 | 2  | 81553048 | C   |     | 0.00590                |
| rs6715049 | 2   | 81626505 | T   |     | 0.00067                |
| rs41362844 | 2  | 81787642 | T   |     | 0.00240                |
| rs11678573 | 2  | 82056717 | T   |     | 0.01048                |
| rs1521694 | 2   | 82079119 | C   |     | 0.01461                |
| rs909045  | 2   | 82081198 | A   |     | 0.01053                |
| rs13023451 | 2  | 82237331 | T   |     | 0.00089                |
| rs7601571 | 2   | 82603966 | G   |     | 0.00061                |
| rs7558379 | 2   | 82858244 | C   |     | 0.00253                |
| rs17022516 | 2  | 82905461 | G   |     | 0.00249                |
| rs17022594 | 2  | 82922840 | G   |     | 0.01587                |
| rs2163253 | 2   | 83234615 | A   |     | 0.00089                |
| rs1947465 | 2   | 84471616 | C   |     | 0.00178                |
| rs4832126 | 2   | 84995378 | C   |     | 0.01366                |
| SNP       | Chromosome | Position | Allele | P-value |
|-----------|------------|----------|--------|---------|
| rs1382506 | 2          | 85001079 | G      | 0.0055  |
| rs17025940| 2          | 85228793 | T      | 0.0162  |
| rs7574999 | 2          | 85364476 | G      | 0.0033  |
| rs12714139| 2          | 85385318 | A      | 0.0006  |
| rs2304564 | 2          | 85706178 | T      | 0.0005  |
| rs1105864 | 2          | 86480775 | T      | 0.0061  |
| rs6749703 | 2          | 86908760 | T      | 0.0116  |
| rs1518713 | 2          | 87373867 | A      | 0.0116  |
| rs6547736 | 2          | 87533266 | G      | 0.0135  |
| rs12714139| 2          | 88176939 | T      | 0.0032  |
| rs17037827| 2          | 88306046 | C      | 0.0016  |
| rs1258410 | 2          | 88399634 | G      | 0.0110  |
| rs1258407 | 2          | 88400714 | A      | 0.0099  |
| rs6739095 | 2          | 88661179 | T      | 0.0025  |
| rs17838439| 2          | 88788402 | G      | 0.0118  |
| rs11690687| 2          | 97828253 | C      | 0.0004  |
| rs4851884 | 2          | 98162224 | G      | 0.0135  |
| rs1010387 | 2          | 98189693 | T      | 0.0048  |
| rs4851170 | 2          | 98870755 | A      | 0.0001  |
| rs1955393 | 2          | 99252733 | A      | 0.0074  |
| rs901596  | 2          | 99254889 | A      | 0.0072  |
| rs4850905 | 2          | 99518797 | T      | 0.0051  |
| rs9678859 | 2          | 99654910 | T      | 0.0022  |
| rs13419977| 2          | 99760452 | G      | 0.0022  |
| rs6755935 | 2          | 99762971 | G      | 0.0018  |
| rs4449188 | 2          | 99915769 | G      | 0.0034  |
| rs2970990 | 2          | 10056686 | A      | 0.0121  |
| rs2309846 | 2          | 10056788 | G      | 0.0138  |
| rs2139404 | 2          | 10060802 | G      | 0.0137  |
| rs4851365 | 2          | 10065756 | T      | 0.0006  |
| rs11685537| 2          | 10204087 | T      | 0.0127  |
| rs1420097 | 2          | 10237578 | G      | 0.0075  |
| rs4851004 | 2          | 10237596 | G      | 0.0065  |
| rs2287034 | 2          | 10237702 | A      | 0.0037  |
| rs1901480 | 2          | 10361943 | G      | 0.0017  |
| rs938872  | 2          | 10379439 | T      | 0.0093  |
| rs7572010 | 2          | 10440135 | C      | 0.0067  |
| rs396610  | 2          | 10477027 | T      | 0.0038  |
| rs4266037 | 2          | 10509718 | T      | 0.0102  |
| rs4271787 | 2          | 10509730 | T      | 0.0156  |
| rs2679882 | 2          | 10515751 | C      | 0.0090  |
| rs6723624 | 2          | 10516373 | C      | 0.0108  |
| rs10496390| 2          | 10520522 | T      | 0.0121  |
| rs2679895 | 2          | 10527291 | C      | 0.0044  |
| SNP       | Chromosome | Position   | Allele | P-value |
|-----------|------------|------------|--------|---------|
| rs873738  | 2          | 105291513  | G      | 0.01273 |
| rs6752668 | 2          | 105713648  | G      | 0.00232 |
| rs17031659| 2          | 105714942  | A      | 0.01084 |
| rs3769499 | 2          | 105847877  | T      | 0.00394 |
| rs1647675 | 2          | 105992459  | C      | 0.00728 |
| rs6717628 | 2          | 106339783  | T      | 0.00088 |
| rs7565431 | 2          | 106815984  | T      | 0.01386 |
| rs2108208 | 2          | 106860071  | G      | 0.00756 |
| rs12712262| 2          | 106882965  | C      | 0.00943 |
| rs17031659| 2          | 107989754  | C      | 0.00276 |
| rs6720783 | 2          | 108121873  | C      | 0.00704 |
| rs1563119 | 2          | 108152299  | C      | 0.01122 |
| rs9646947 | 2          | 108230082  | A      | 0.01036 |
| rs921656  | 2          | 108253437  | C      | 0.00851 |
| rs7565363 | 2          | 109121873  | C      | 0.00704 |
| rs11683409| 2          | 112457764  | A      | 0.00621 |
| rs3748916 | 2          | 112486605  | C      | 0.00848 |
| rs934748  | 2          | 113074753  | A      | 0.00509 |
| rs1530549 | 2          | 113533926  | T      | 0.00626 |
| rs6759676 | 2          | 113552819  | G      | 0.00325 |
| rs7547877 | 2          | 113553887  | T      | 0.00400 |
| rs4841952 | 2          | 113565045  | C      | 0.00060 |
| rs3748916 | 2          | 113700504  | C      | 0.00324 |
| rs17633451| 2          | 114245347  | A      | 0.01408 |
| rs156719  | 2          | 114526503  | A      | 0.01019 |
| rs17048190| 2          | 114636263  | G      | 0.01556 |
| rs6744934 | 2          | 114896383  | G      | 0.01136 |
| rs4488674 | 2          | 116147698  | T      | 0.00582 |
| rs10174913| 2          | 116491637  | C      | 0.00638 |
| rs41383544| 2          | 116711729  | C      | 0.00919 |
| rs12476141| 2          | 118191287  | G      | 0.01320 |
| rs408507  | 2          | 118220469  | A      | 0.01472 |
| rs4848465 | 2          | 118228304  | C      | 0.01544 |
| rs7559497 | 2          | 118235289  | G      | 0.00631 |
| rs11675138| 2          | 118592854  | G      | 0.01371 |
| rs13409573| 2          | 118604875  | A      | 0.00889 |
| rs3849331 | 2          | 118624828  | G      | 0.00820 |
| rs1123476 | 2          | 118644190  | A      | 0.01285 |
| rs4849683 | 2          | 118663113  | C      | 0.00520 |
| rs17006624| 2          | 119266362  | A      | 0.00499 |
| rs17006964| 2          | 119298975  | T      | 0.00948 |
| rs7595954 | 2          | 119691991  | C      | 0.00783 |
| rs838074  | 2          | 119729734  | A      | 0.01100 |
| rs752185  | 2          | 119786225  | T      | 0.01555 |
| SNP   | Chromosome | Position | Major Allele | Minor Allele | p-value |
|-------|------------|----------|--------------|--------------|---------|
| rs4241156 | 2 | 120748165 | T | 0.00488 |
| rs13410508 | 2 | 120946066 | A | 0.00225 |
| rs11122825 | 2 | 121308178 | G | 0.00302 |
| rs1466042 | 2 | 121419389 | T | 0.01037 |
| rs753727 | 2 | 121767700 | A | 8.73800 |
| rs7581005 | 2 | 122198612 | A | 0.00225 |
| rs11122825 | 2 | 122316276 | T | 0.00426 |
| rs10460453 | 2 | 122317772 | G | 0.01346 |
| rs10496583 | 2 | 122835383 | A | 0.01502 |
| rs10460462 | 2 | 122979395 | C | 0.00565 |
| rs10496583 | 2 | 123023527 | G | 0.00512 |
| rs11122916 | 2 | 123042613 | C | 0.00936 |
| rs753727 | 2 | 123106758 | G | 0.00159 |
| rs17008553 | 2 | 123206801 | C | 0.00783 |
| rs17008704 | 2 | 123206801 | G | 0.00105 |
| rs1700879 | 2 | 123371606 | T | 0.01021 |
| rs1850585 | 2 | 123379760 | C | 0.00991 |
| rs10496603 | 2 | 123433151 | C | 0.00104 |
| rs2661038 | 2 | 123557229 | T | 0.00797 |
| rs13009000 | 2 | 123772494 | A | 0.00726 |
| rs993934 | 2 | 123825683 | C | 0.00343 |
| rs11122979 | 2 | 123890625 | C | 0.00373 |
| rs11678698 | 2 | 124098180 | T | 0.00755 |
| rs13020843 | 2 | 124193068 | A | 0.00408 |
| rs10496637 | 2 | 125023660 | A | 0.00510 |
| rs1587789 | 2 | 125107810 | T | 0.00639 |
| rs41393446 | 2 | 125766987 | T | 0.01442 |
| rs4849019 | 2 | 125997677 | G | 0.00147 |
| rs1455608 | 2 | 126444744 | G | 0.00865 |
| rs17013415 | 2 | 126681928 | T | 0.01645 |
| rs451639 | 2 | 126711318 | G | 0.01375 |
| rs11695820 | 2 | 126942871 | A | 0.00904 |
| rs10173017 | 2 | 12700106 | G | 0.00592 |
| rs10928980 | 2 | 127181439 | G | 0.00154 |
| rs11691902 | 2 | 128290513 | G | 0.00402 |
| rs6722778 | 2 | 128475570 | C | 0.00712 |
| rs13386088 | 2 | 128745361 | G | 0.01259 |
| rs841466 | 2 | 129052823 | A | 0.00695 |
| rs3856370 | 2 | 129284172 | T | 0.01445 |
| rs17049013 | 2 | 129485802 | G | 0.00563 |
| rs1519446 | 2 | 129560995 | G | 0.00106 |
| SNP            | Chr  | Position     | Allele | P-value |
|----------------|------|--------------|--------|---------|
| rs12612255     | 2    | 129621210    | G      | 0.00376 |
| rs751070       | 2    | 129708174    | T      | 0.00051 |
| rs4613217      | 2    | 130033518    | A      | 0.00918 |
| rs11681113     | 2    | 130123690    | G      | 0.01315 |
| rs6430737      | 2    | 131814612    | C      | 0.00294 |
| rs941325       | 2    | 131874454    | C      | 0.01359 |
| rs6712428      | 2    | 132334259    | C      | 0.00994 |
| rs12618338     | 2    | 132999524    | T      | 0.00217 |
| rs751070       | 2    | 133098462    | C      | 0.01544 |
| rs11681113     | 2    | 133209220    | C      | 0.01544 |
| rs6430737      | 2    | 133324285    | C      | 0.00662 |
| rs941325       | 2    | 133362363    | T      | 0.01641 |
| rs6712428      | 2    | 133986047    | C      | 0.00711 |
| rs751070       | 2    | 134030848    | A      | 0.00724 |
| rs6430737      | 2    | 134303528    | C      | 0.00542 |
| rs941325       | 2    | 134361815    | G      | 0.00375 |
| rs11681113     | 2    | 134397888    | A      | 0.00818 |
| rs6430737      | 2    | 134414690    | G      | 0.01568 |
| rs941325       | 2    | 134554646    | T      | 0.01137 |
| rs6712428      | 2    | 135410007    | C      | 0.00783 |
| rs751070       | 2    | 135831902    | C      | 0.00944 |
| rs6430737      | 2    | 136353820    | C      | 0.01594 |
| rs941325       | 2    | 136865724    | T      | 0.00678 |
| rs11681113     | 2    | 137057240    | A      | 0.01377 |
| rs6430737      | 2    | 137058414    | T      | 0.00860 |
| rs941325       | 2    | 137445484    | C      | 0.00273 |
| rs6430737      | 2    | 137473291    | C      | 0.00455 |
| rs751070       | 2    | 137685986    | T      | 0.01618 |
| rs941325       | 2    | 137696788    | G      | 0.00977 |
| rs6430737      | 2    | 137696948    | T      | 0.01066 |
| rs11681113     | 2    | 138771181    | T      | 0.00212 |
| rs6430737      | 2    | 139403085    | G      | 0.00986 |
| rs941325       | 2    | 139451263    | T      | 0.00747 |
| rs11681113     | 2    | 139627873    | G      | 0.01607 |
| rs941325       | 2    | 139631252    | A      | 0.00385 |
| rs11681113     | 2    | 139664403    | G      | 0.00231 |
| rs6430737      | 2    | 139709212    | T      | 0.00515 |
| rs941325       | 2    | 139842930    | T      | 0.00869 |
| rs11681113     | 2    | 139899653    | T      | 0.01194 |
| rs941325       | 2    | 139920877    | G      | 0.00099 |
| rs11681113     | 2    | 139921301    | A      | 0.01457 |
| rs2376454      | 2    | 140141111    | A      | 0.01314 |
| rs9646702      | 2    | 140205658    | T      | 0.01558 |
| SNP           | Chromosome | Position | Reference | Minor | P-Value |
|--------------|------------|----------|-----------|-------|---------|
| rs12992137   | 2          | 140812377| A         | 0.01152|
| rs10209173   | 2          | 141088732| C         | 0.00639|
| rs547663     | 2          | 141099297| T         | 0.00450|
| rs3936044    | 2          | 141944581| C         | 0.00436|
| rs13016459   | 2          | 142351017| T         | 0.01305|
| rs10496922   | 2          | 142787807| C         | 0.00195|
| rs4662300    | 2          | 143291329| G         | 0.00311|
| rs7561260    | 2          | 143439309| G         | 0.01581|
| rs12996951   | 2          | 143975121| G         | 0.01388|
| rs10496922   | 2          | 142787807| C         | 0.00195|
| rs4662300    | 2          | 143291329| G         | 0.00311|
| rs7561260    | 2          | 143439309| G         | 0.01581|
| rs12996951   | 2          | 143975121| G         | 0.01388|
| SNP          | Chrs | Start | End | Allele | P-value |
|--------------|------|-------|-----|--------|---------|
| rs41407646   | 2    | 158901798 | C | 0.01529 |
| rs10190089   | 2    | 158957987 | T | 0.01465 |
| rs4664970    | 2    | 159103608 | G | 0.01201 |
| rs11901072   | 2    | 160661295 | T | 0.00894 |
| rs7588696    | 2    | 160772831 | T | 0.01010 |
| rs1350313    | 2    | 160780790 | T | 0.00614 |
| rs12988587   | 2    | 160950541 | A | 0.01347 |
| rs4591356    | 2    | 161206111 | C | 0.00054 |
| rs355909     | 2    | 161325558 | T | 0.00457 |
| rs10178838   | 2    | 161360406 | G | 0.00833 |
| rs2198225    | 2    | 164984842 | A | 0.01047 |
| rs1357119    | 2    | 165121630 | A | 0.00785 |
| rs490463     | 2    | 166694213 | A | 0.00911 |
| rs776488     | 2    | 166598979 | A | 0.00593 |
| rs16850186   | 2    | 166732166 | T | 0.00246 |
| rs7600082    | 2    | 166826106 | T | 0.00949 |
| rs1185110    | 2    | 166132558 | T | 0.00457 |
| rs41342544   | 2    | 168928713 | C | 0.01661 |
| rs7601307    | 2    | 169245657 | A | 0.01046 |
| rs3845727    | 2    | 169358617 | T | 0.00372 |
| rs16855893   | 2    | 169360893 | C | 0.00053 |
| rs2389605    | 2    | 169538297 | T | 0.00762 |
| rs6759156    | 2    | 169552855 | T | 0.00413 |
| rs13430236   | 2    | 169589746 | C | 0.00598 |
| rs674792     | 2    | 169787791 | A | 0.00677 |
| rs6717393    | 2    | 170248026 | G | 0.00524 |
| rs3914752    | 2    | 170833364 | A | 0.01231 |
| rs908782     | 2    | 170837608 | C | 0.01319 |
| rs2118674    | 2    | 171027140 | T | 0.00303 |
| rs2160231    | 2    | 171186648 | C | 0.00754 |
| rs2059723    | 2    | 171539443 | T | 0.01354 |
| SNP   | Chromosome | Position | Minor Allele | Minor Allele Frequency |
|-------|------------|----------|--------------|------------------------|
| rs6745725 | 2        | 172163179 | G            | 0.01385                |
| rs788164   | 2        | 172621636 | G            | 0.00179                |
| rs1843755  | 2        | 172723356 | A            | 0.00680                |
| rs2171319  | 2        | 172768668 | C            | 0.00429                |
| rs6707676  | 2        | 172981792 | C            | 0.01613                |
| rs7604728  | 2        | 173576054 | G            | 0.00045                |
| rs7573673  | 2        | 173640508 | A            | 0.01028                |
| rs2171319  | 2        | 172768668 | C            | 0.00429                |
| rs6707676  | 2        | 172981792 | C            | 0.01613                |
| rs7604728  | 2        | 173576054 | G            | 0.00045                |
| rs7573673  | 2        | 173640508 | A            | 0.01028                |
| rs12328679 | 2        | 174149739 | A            | 0.00760                |
| rs10497408 | 2        | 174445369 | G            | 0.00292                |
| rs7601227  | 2        | 174587420 | C            | 0.01005                |
| rs2044470  | 2        | 174640083 | T            | 0.00163                |
| rs10930638 | 2        | 174682842 | A            | 0.01647                |
| rs17239377 | 2        | 174688585 | T            | 0.01610                |
| rs17320968 | 2        | 174884534 | G            | 0.00047                |
| rs935866   | 2        | 175310212 | A            | 0.00666                |
| rs2123117  | 2        | 175310260 | T            | 0.01271                |
| rs2646173  | 2        | 175325924 | G            | 0.00316                |
| rs2244340  | 2        | 175349821 | G            | 0.01454                |
| rs13408856 | 2        | 175459752 | G            | 0.00127                |
| rs16862989 | 2        | 175631114 | G            | 0.00924                |
| rs17270532 | 2        | 175725442 | C            | 0.00624                |
| rs6742336  | 2        | 175903850 | A            | 0.00072                |
| rs4625873  | 2        | 176384591 | G            | 0.00494                |
| rs847138   | 2        | 176609446 | T            | 0.00023                |
| rs6712866  | 2        | 176885163 | C            | 0.00414                |
| rs2139615  | 2        | 176986713 | T            | 0.00057                |
| rs3898818  | 2        | 177049059 | C            | 0.00978                |
| rs10177590 | 2        | 177357008 | G            | 0.01380                |
| rs2696970  | 2        | 177364678 | T            | 0.00133                |
| rs1405613  | 2        | 177442858 | G            | 0.01265                |
| rs4368367  | 2        | 177663894 | T            | 0.00475                |
| rs4893829  | 2        | 178108056 | A            | 0.00241                |
| rs1527405  | 2        | 178234073 | A            | 0.00119                |
| rs4893984  | 2        | 178265165 | G            | 0.00930                |
| rs41357848 | 2        | 178397207 | A            | 0.00466                |
| rs334068   | 2        | 178713684 | G            | 0.01137                |
| rs6739142  | 2        | 179006070 | A            | 0.01056                |
| rs3816345  | 2        | 179683130 | G            | 0.00565                |
| rs6718670  | 2        | 180352126 | C            | 0.00769                |
| rs17175114 | 2        | 180562865 | G            | 0.00128                |
| rs10497556 | 2        | 180649047 | C            | 0.00211                |
| SNP         | rsID  | Chromosome | Position | Allele | Minor Allele Frequency |
|-------------|-------|------------|----------|--------|------------------------|
| rs16867176  | 180653374 | T       | 0.00881  |
| rs4438449   | 180824043 | G       | 0.00460  |
| rs10460373  | 181181226 | T       | 0.00092  |
| rs2113780   | 181280598 | G       | 0.00883  |
| rs2292855   | 181634030 | C       | 0.01500  |
| rs4667055   | 181657755 | G       | 0.01330  |
| rs10460373  | 181181226 | T       | 0.00092  |
| rs2113780   | 181280598 | G       | 0.00883  |
| rs2292855   | 181634030 | C       | 0.01500  |
| rs4667055   | 181657755 | G       | 0.01330  |
| rs10460373  | 181181226 | T       | 0.00092  |
| rs2113780   | 181280598 | G       | 0.00883  |
| rs2292855   | 181634030 | C       | 0.01500  |
| rs4667055   | 181657755 | G       | 0.01330  |
| rs10460373  | 181181226 | T       | 0.00092  |
| rs2113780   | 181280598 | G       | 0.00883  |
| rs2292855   | 181634030 | C       | 0.01500  |
| rs4667055   | 181657755 | G       | 0.01330  |
| SNP          | Chromosome | Position   | Allele | P-value |
|--------------|------------|------------|--------|---------|
| rs2192008    | 2          | 191253392  | C      | 0.00543 |
| rs6434412    | 2          | 191293520  | A      | 0.00803 |
| rs11687659   | 2          | 191449442  | C      | 0.00231 |
| rs6718902    | 2          | 191546449  | G      | 0.00601 |
| rs11676659   | 2          | 191627599  | T      | 0.00121 |
| rs41321746   | 2          | 192384170  | G      | 0.01039 |
| rs4853492    | 2          | 192740989  | A      | 0.00563 |
| rs13009328   | 2          | 193532430  | G      | 0.01070 |
| rs10169076   | 2          | 195054116  | G      | 0.00176 |
| rs11676659   | 2          | 195179543  | A      | 0.01192 |
| rs41367247   | 2          | 195435240  | C      | 0.01095 |
| rs16844110   | 2          | 196024099  | T      | 0.00815 |
| rs1554168    | 2          | 196192437  | C      | 0.00065 |
| rs16842044   | 2          | 196288141  | G      | 0.00304 |
| rs7593761    | 2          | 196983848  | C      | 0.00746 |
| rs7590951    | 2          | 197007679  | G      | 0.01584 |
| rs10167169   | 2          | 197158863  | T      | 0.00354 |
| rs7579253    | 2          | 197194201  | T      | 0.01190 |
| rs332301     | 2          | 197473294  | T      | 0.00095 |
| rs12693803   | 2          | 197520866  | T      | 0.00109 |
| rs2697307    | 2          | 197783710  | G      | 0.01153 |
| rs6434970    | 2          | 198987616  | C      | 0.01575 |
| rs1598656    | 2          | 199583342  | A      | 0.00741 |
| rs10804088   | 2          | 199776297  | G      | 0.00358 |
| rs16831557   | 2          | 200095936  | G      | 0.00625 |
| rs6706499    | 2          | 200559059  | A      | 0.01564 |
| rs2470900    | 2          | 201211143  | A      | 0.00950 |
| rs6747253    | 2          | 201456660  | A      | 0.00201 |
| rs13402805   | 2          | 202256209  | A      | 0.00260 |
| rs10469756   | 2          | 202288513  | T      | 0.01576 |
| rs12470229   | 2          | 202305680  | G      | 0.01062 |
| rs7597560    | 2          | 202666759  | T      | 0.00280 |
| rs4303700    | 2          | 202954656  | T      | 0.00332 |
| rs4675296    | 2          | 203401804  | G      | 0.00391 |
| rs10174652   | 2          | 204135585  | A      | 0.00705 |
| rs16841256   | 2          | 205008062  | A      | 0.00190 |
| rs1861763    | 2          | 205237235  | G      | 0.01587 |
| rs6754606    | 2          | 205632522  | G      | 0.00843 |
| rs17284800   | 2          | 205679048  | C      | 0.00038 |
| rs1921797    | 2          | 205795364  | A      | 0.00611 |
| rs6758662    | 2          | 205795592  | C      | 0.00753 |
| rs10206071   | 2          | 205796347  | G      | 0.00356 |
| rs7593566    | 2          | 205804065  | A      | 0.00781 |
| rs11687914   | 2          | 206072732  | G      | 0.00324 |
| SNP      | Chromosome Position | Minor Allele | Minor Allele Frequency |
|----------|---------------------|-------------|-----------------------|
| rs4675600 | 2 206925173          | A           | 0.01653               |
| rs2269183 | 2 207063599          | A           | 0.00797               |
| rs6707178 | 2 207312672          | A           | 0.00171               |
| rs6435354 | 2 207409396          | T           | 0.00427               |
| rs12694063| 2 207445996          | T           | 0.01607               |
| rs1031432 | 2 207448975          | A           | 0.01453               |
| rs2078    | 2 207493189          | C           | 0.00729               |
| rs4675644 | 2 207548577          | C           | 0.00387               |
| rs2269183 | 2 207063599          | A           | 0.00797               |
| rs6707178 | 2 207312672          | A           | 0.00171               |
| rs6435354 | 2 207409396          | T           | 0.00427               |
| rs12694063| 2 207445996          | T           | 0.01607               |
| rs1031432 | 2 207448975          | A           | 0.01453               |
| rs2078    | 2 207493189          | C           | 0.00729               |
| rs4675644 | 2 207548577          | C           | 0.00387               |
| rs2269183 | 2 207063599          | A           | 0.00797               |
| rs6707178 | 2 207312672          | A           | 0.00171               |
| rs6435354 | 2 207409396          | T           | 0.00427               |
| rs12694063| 2 207445996          | T           | 0.01607               |
| rs1031432 | 2 207448975          | A           | 0.01453               |
| rs2078    | 2 207493189          | C           | 0.00729               |
| rs4675644 | 2 207548577          | C           | 0.00387               |
| SNP          | Chrs | Position  | Allele | Minor Allele Frequency |
|--------------|------|-----------|--------|------------------------|
| rs16863084   | 2    | 222369010 | C      | 0.00063                |
| rs348984     | 2    | 222640734 | C      | 0.01255                |
| rs6436292    | 2    | 222680987 | A      | 0.01557                |
| rs2053319    | 2    | 222686533 | T      | 0.00225                |
| rs6436314    | 2    | 222921375 | G      | 0.01524                |
| rs12621612   | 2    | 222971761 | C      | 0.00322                |
| rs17564655   | 2    | 223143895 | A      | 0.01213                |
| rs16864505   | 2    | 223727014 | C      | 0.01101                |
| rs348984     | 2    | 223775131 | C      | 0.00248                |
| rs2141784    | 2    | 224007049 | C      | 0.00233                |
| rs1439929    | 2    | 224106243 | C      | 0.00966                |
| rs7603262    | 2    | 224344734 | C      | 0.00206                |
| rs7605583    | 2    | 224987718 | T      | 0.00091                |
| rs10498166   | 2    | 225223726 | G      | 0.00103                |
| rs6750925    | 2    | 225751889 | G      | 0.01363                |
| rs2396192    | 2    | 225813538 | A      | 0.01103                |
| rs10153937   | 2    | 225873256 | C      | 0.00227                |
| rs973944     | 2    | 225952373 | T      | 0.00015                |
| rs7593510    | 2    | 226180950 | C      | 0.00550                |
| rs10451590   | 2    | 226438495 | A      | 0.01568                |
| rs6735439    | 2    | 226587842 | T      | 0.00099                |
| rs12621261   | 2    | 226613705 | C      | 0.00657                |
| rs11684232   | 2    | 226630137 | G      | 0.01565                |
| rs4673157    | 2    | 226641531 | A      | 0.00778                |
| rs1273810    | 2    | 227182674 | T      | 0.00885                |
| rs1273812    | 2    | 227186131 | A      | 0.00974                |
| rs12621407   | 2    | 227206764 | A      | 0.00416                |
| rs2396385    | 2    | 227211369 | A      | 0.01623                |
| rs17198764   | 2    | 227214712 | G      | 0.00666                |
| rs1882579    | 2    | 227224085 | T      | 0.00103                |
| rs1882580    | 2    | 227226692 | G      | 0.01495                |
| rs2178707    | 2    | 227234630 | A      | 0.01336                |
| rs2396427    | 2    | 227388355 | G      | 0.00843                |
| rs2078635    | 2    | 227728735 | C      | 0.00813                |
| rs10203311   | 2    | 228744501 | G      | 0.00408                |
| rs4133088    | 2    | 228766316 | C      | 0.00353                |
| rs1863073    | 2    | 228986187 | G      | 0.00026                |
| rs996682     | 2    | 229093994 | T      | 0.01374                |
| rs975519     | 2    | 229098461 | G      | 0.00945                |
| rs9288635    | 2    | 229102479 | C      | 0.01507                |
| rs16825116   | 2    | 229114929 | T      | 0.00213                |
| rs918896     | 2    | 229124541 | T      | 0.01306                |
| rs1435850    | 2    | 229139165 | A      | 0.00015                |
| rs41330849   | 2    | 229166212 | T      | 0.01514                |
| rs            | Chr | Position   | SNP | P-value |
|---------------|-----|------------|-----|---------|
| rs12468084    | 2   | 230304596  | T   | 0.01562 |
| rs546530      | 2   | 230461208  | G   | 0.00549 |
| rs6757156     | 2   | 230528844  | T   | 0.00431 |
| rs16826767    | 2   | 230734072  | G   | 0.01065 |
| rs6755898     | 2   | 230734362  | A   | 0.01488 |
| rs6436929     | 2   | 230957035  | A   | 0.00431 |
| rs7559665     | 2   | 230965056  | A   | 0.00952 |
| rs6751402     | 2   | 231074806  | T   | 0.00297 |
| rs6747431     | 2   | 231249581  | C   | 0.00666 |
| rs3106304     | 2   | 231532556  | G   | 0.00089 |
| rs11674265    | 2   | 231569945  | T   | 0.01019 |
| rs4973370     | 2   | 231590362  | A   | 0.00097 |
| rs6437002     | 2   | 231733528  | G   | 0.00472 |
| rs17199614    | 2   | 232166101  | A   | 0.00104 |
| rs10195385    | 2   | 232428983  | A   | 0.00245 |
| rs11901692    | 2   | 232857983  | A   | 0.00358 |
| rs6746834     | 2   | 232867061  | C   | 0.00201 |
| rs1881495     | 2   | 233080644  | A   | 0.00670 |
| rs3791725     | 2   | 233126885  | A   | 0.01504 |
| rs1284        | 2   | 233431426  | G   | 0.00381 |
| rs1104953     | 2   | 233578610  | C   | 0.01082 |
| rs10193545    | 2   | 233580344  | C   | 0.01531 |
| rs4257390     | 2   | 233637754  | C   | 0.01205 |
| rs6437090     | 2   | 233670795  | G   | 0.00731 |
| rs7566221     | 2   | 233944034  | G   | 0.00811 |
| rs2602381     | 2   | 234249063  | T   | 0.00754 |
| rs741157      | 2   | 234375903  | A   | 0.00846 |
| rs4616477     | 2   | 234606029  | T   | 0.00997 |
| rs715272      | 2   | 234764957  | A   | 0.00686 |
| rs6715142     | 2   | 235229041  | C   | 0.00708 |
| rs11687004    | 2   | 235230882  | G   | 0.01083 |
| rs4663470     | 2   | 235252279  | T   | 0.00337 |
| rs10803629    | 2   | 235556384  | G   | 0.00690 |
| rs6746703     | 2   | 235727802  | T   | 0.00762 |
| rs4583410     | 2   | 237089164  | T   | 0.00658 |
| rs872121      | 2   | 237560929  | G   | 0.00239 |
| rs11683554    | 2   | 237608906  | T   | 0.01342 |
| rs2646261     | 2   | 237924126  | C   | 0.00993 |
| rs2875729     | 2   | 238132139  | T   | 0.01503 |
| rs6431547     | 2   | 238157857  | C   | 0.01060 |
| rs2029770     | 2   | 238225988  | G   | 0.01312 |
| rs6738488     | 2   | 238494352  | G   | 0.01661 |
| rs3739057     | 2   | 238665045  | A   | 0.00671 |
| rs4663304     | 2   | 238898471  | A   | 0.01269 |
| SNP          | Chr | Position   | Allele | P-value |
|--------------|-----|------------|--------|---------|
| rs4663887    | 2   | 238955705  | C      | 0.00429 |
| rs4663907    | 2   | 239138174  | C      | 0.00625 |
| rs12619578   | 2   | 239180160  | T      | 0.00417 |
| rs1397328    | 2   | 239233691  | A      | 0.00352 |
| rs7558129    | 2   | 239252712  | T      | 0.00610 |
| rs4241229    | 2   | 239534776  | T      | 0.00455 |
| rs6706785    | 2   | 240108990  | C      | 0.00036 |
| rs1495921    | 2   | 240858601  | A      | 0.00842 |
| rs7607116    | 2   | 240888050  | G      | 0.00159 |
| rs12474682   | 2   | 240891998  | T      | 0.00159 |
| rs4676354    | 2   | 241104923  | T      | 0.01478 |
| rs4676431    | 2   | 241105074  | G      | 0.00964 |
| rs2060188    | 2   | 241242617  | C      | 0.00496 |
| rs10933628   | 2   | 241243318  | G      | 0.01112 |
| rs4675841    | 2   | 241525253  | A      | 0.01364 |
| rs7601544    | 2   | 242295023  | C      | 0.00908 |
| rs11711363   | 3   | 115727     | A      | 0.01364 |
| rs2133402    | 3   | 231258     | A      | 0.00173 |
| rs17019407   | 3   | 300068     | A      | 0.01144 |
| rs330893     | 3   | 347448     | T      | 0.00036 |
| rs1065035    | 3   | 423979     | T      | 0.01096 |
| rs13079540   | 3   | 446460     | C      | 0.01586 |
| rs12495737   | 3   | 853511     | A      | 0.01368 |
| rs12637032   | 3   | 883745     | T      | 0.01096 |
| rs4684830    | 3   | 1235260    | C      | 0.00790 |
| rs17193526   | 3   | 1475657    | C      | 0.00187 |
| rs41530846   | 3   | 1875711    | C      | 0.00225 |
| rs10510266   | 3   | 3527756    | G      | 0.00899 |
| rs17034952   | 3   | 3665897    | C      | 0.01154 |
| rs3959       | 3   | 3783819    | C      | 0.01049 |
| rs310704     | 3   | 4294728    | A      | 0.01579 |
| rs17042217   | 3   | 5323688    | T      | 0.01519 |
| rs7626628    | 3   | 5474832    | A      | 0.01302 |
| rs6790004    | 3   | 5670779    | A      | 0.00415 |
| rs17287960   | 3   | 6073050    | A      | 0.00099 |
| rs6792001    | 3   | 6081251    | A      | 0.01375 |
| rs6800214    | 3   | 6364075    | C      | 0.01381 |
| rs164722     | 3   | 6634381    | T      | 0.00622 |
| rs163967     | 3   | 6751604    | C      | 0.01429 |
| rs17288442   | 3   | 6841379    | A      | 0.00219 |
| rs17751439   | 3   | 6985587    | G      | 0.00618 |
| rs1356268    | 3   | 6996095    | G      | 0.00937 |
| rs12487503   | 3   | 7456068    | A      | 0.00561 |
| rs779741     | 3   | 7558602    | C      | 0.00764 |
| SNP       | IBD  | Chrm  | Pos   | Allele | P     |
|-----------|------|-------|-------|--------|-------|
| rs7614915 | 3    | 7595382 | G    | 0.01510 |
| rs1485174 | 3    | 7595828 | C    | 0.01621 |
| rs9860395 | 3    | 7693570 | C    | 0.00468 |
| rs5010733 | 3    | 7814573 | G    | 0.01504 |
| rs17825275| 3    | 7933489 | C    | 0.01633 |
| rs1695564 | 3    | 8455539 | A    | 0.00648 |
| rs358270  | 3    | 8465918 | A    | 0.00998 |
| rs358267  | 3    | 8467724 | A    | 0.00322 |
| rs1038483 | 3    | 8469627 | T    | 0.00392 |
| rs17049174| 3    | 8484497 | C    | 0.00776 |
| rs9861544 | 3    | 8519420 | C    | 0.00570 |
| rs1994876 | 3    | 8524665 | T    | 0.01187 |
| rs4143966 | 3    | 8533515 | G    | 0.00246 |
| rs1947220 | 3    | 8537637 | G    | 0.01450 |
| rs1493588 | 3    | 8543956 | G    | 0.00997 |
| rs9810512 | 3    | 8545874 | G    | 0.01624 |
| rs371734  | 3    | 8614568 | T    | 0.01474 |
| rs9878735 | 3    | 8620740 | G    | 0.00403 |
| rs17049652| 3    | 8864189 | A    | 0.00867 |
| rs486012  | 3    | 9016299 | T    | 0.00141 |
| rs341975  | 3    | 9021906 | T    | 0.00638 |
| rs341788  | 3    | 9025659 | C    | 0.00280 |
| rs2669986 | 3    | 9098116 | T    | 0.01562 |
| rs531719  | 3    | 9111060 | C    | 0.01411 |
| rs2543494 | 3    | 9156903 | T    | 0.01389 |
| rs6765880 | 3    | 9207109 | T    | 0.00853 |
| rs2259100 | 3    | 9549327 | T    | 0.00716 |
| rs6809387 | 3    | 9677755 | T    | 0.00175 |
| rs12490544| 3    | 9711452 | C    | 0.01649 |
| rs17032283| 3    | 10056545| G    | 0.01221 |
| rs10490816| 3    | 10310172| G    | 0.01391 |
| rs1473183 | 3    | 10386827| T    | 0.00490 |
| rs9822852 | 3    | 10617892| T    | 0.01200 |
| rs3774108 | 3    | 10898193| C    | 0.01621 |
| rs1881370 | 3    | 10949156| C    | 0.01439 |
| rs1728810 | 3    | 10992443| A    | 0.00274 |
| rs9830784 | 3    | 11409605| G    | 0.00936 |
| rs17776482| 3    | 11608951| T    | 0.00650 |
| rs7613596 | 3    | 11665450| G    | 0.01216 |
| rs1039200 | 3    | 11705846| T    | 0.00277 |
| rs4684815 | 3    | 11810539| C    | 0.00297 |
| rs9842727 | 3    | 11830968| A    | 0.01440 |
| rs11712268| 3    | 11891653| G    | 0.01048 |
| rs2600272 | 3    | 12011495| G    | 0.01586 |
| rs          | chrom | start_pos | allele | p_value |
|------------|-------|-----------|--------|---------|
| rs310751   | 3     | 12248621  | T      | 0.01491 |
| rs471259   | 3     | 13204324  | G      | 0.01488 |
| rs17038082 | 3     | 13375275  | A      | 0.01011 |
| rs7635926  | 3     | 13403413  | G      | 0.00276 |
| rs4684940  | 3     | 13530297  | A      | 0.01397 |
| rs17038609 | 3     | 13825703  | G      | 0.01395 |
| rs4685039  | 3     | 13841500  | C      | 0.01419 |
| rs17038082 | 3     | 13843275  | A      | 0.01011 |
| rs7635926  | 3     | 13403413  | G      | 0.00276 |
| rs4684940  | 3     | 13530297  | A      | 0.01397 |
| rs17038609 | 3     | 13825703  | G      | 0.01395 |
| rs4685039  | 3     | 13841500  | C      | 0.01419 |
| rs17038082 | 3     | 13843275  | A      | 0.01011 |
| rs7635926  | 3     | 13403413  | G      | 0.00276 |
| rs4684940  | 3     | 13530297  | A      | 0.01397 |
| rs17038609 | 3     | 13825703  | G      | 0.01395 |
| rs4685039  | 3     | 13841500  | C      | 0.01419 |
| rs17038082 | 3     | 13843275  | A      | 0.01011 |
| SNP    | Chromosome | Position   | Allele | P-value |
|--------|------------|------------|--------|---------|
| rs9882017 | 3 | 22621739 | G | 0.01508 |
| rs7636994  | 3 | 23120110 | A | 0.00964 |
| rs13098494 | 3 | 23390701 | G | 0.00762 |
| rs13093140 | 3 | 23517018 | A | 0.00826 |
| rs7429885  | 3 | 23716534 | G | 0.00573 |
| rs6550788  | 3 | 23734941 | T | 0.00045 |
| rs6550853  | 3 | 24241988 | T | 0.00045 |
| rs1449874  | 3 | 24246832 | G | 0.01288 |
| rs4413265  | 3 | 24721324 | A | 0.01225 |
| rs1317177  | 3 | 24865084 | T | 0.00165 |
| rs322681   | 3 | 25304796 | G | 0.00012 |
| rs322668   | 3 | 25318619 | G | 0.00474 |
| rs17523645 | 3 | 25398435 | C | 0.01427 |
| rs4681024  | 3 | 25450886 | C | 0.00605 |
| rs4681025  | 3 | 25450928 | G | 0.00921 |
| rs1488209  | 3 | 26831534 | C | 0.00480 |
| rs12630194 | 3 | 27376689 | A | 0.01315 |
| rs2887957  | 3 | 27876742 | C | 0.01360 |
| rs17688561 | 3 | 28099213 | C | 0.01024 |
| rs6549870  | 3 | 28678368 | A | 0.00834 |
| rs6549938  | 3 | 29420467 | G | 0.00921 |
| rs9824170  | 3 | 29473011 | T | 0.01280 |
| rs1434012  | 3 | 30099233 | A | 0.00896 |
| rs9869272  | 3 | 30288914 | A | 0.01373 |
| rs11917205 | 3 | 30545602 | T | 0.00488 |
| rs2116138  | 3 | 30577634 | T | 0.01052 |
| rs9843942  | 3 | 30704640 | C | 0.00757 |
| rs1494741  | 3 | 30970990 | C | 0.00224 |
| rs6772140  | 3 | 31002768 | C | 0.01408 |
| rs4955377  | 3 | 31187597 | A | 0.00901 |
| rs7626417  | 3 | 31384916 | A | 0.00012 |
| rs9848240  | 3 | 31486695 | G | 0.00171 |
| rs3762794  | 3 | 31735440 | G | 0.00388 |
| rs10780017 | 3 | 31942454 | C | 0.00276 |
| rs6798586  | 3 | 32107036 | T | 0.01137 |
| rs6802418  | 3 | 32371808 | A | 0.01353 |
| rs9827863  | 3 | 33093955 | C | 0.00328 |
| rs9817055  | 3 | 33545331 | C | 0.00486 |
| rs9311026  | 3 | 33780565 | A | 0.01372 |
| rs7649584  | 3 | 33849455 | C | 0.00476 |
| rs12715223 | 3 | 33917129 | G | 0.01018 |
| rs17031242 | 3 | 34058010 | C | 0.01047 |
| rs133222449| 3 | 34627200 | A | 0.00915 |
| rs7646181  | 3 | 34821028 | C | 0.00326 |
| SNP          | Chromosome | Position   | Allele | P-value |
|--------------|------------|------------|--------|---------|
| rs885314     | 3          | 34915736   | G      | 0.01413 |
| rs11129626   | 3          | 34950049   | G      | 0.00284 |
| rs17032625   | 3          | 35052013   | G      | 0.01121 |
| rs6799641    | 3          | 35661736   | T      | 0.00132 |
| rs999745     | 3          | 36652151   | G      | 0.01640 |
| rs5009838    | 3          | 36656030   | T      | 0.01537 |
| rs11710386   | 3          | 36656248   | T      | 0.00941 |
| rs17197692   | 3          | 36750950   | C      | 0.01153 |
| rs4624519    | 3          | 36837984   | A      | 0.00454 |
| rs6799641    | 3          | 36902550   | C      | 0.00383 |
| rs9828017    | 3          | 37174809   | T      | 0.00872 |
| rs17036298   | 3          | 37402202   | C      | 0.01389 |
| rs1800       | 3          | 37780866   | T      | 0.00181 |
| rs17037369   | 3          | 38103093   | A      | 0.00805 |
| rs6599263    | 3          | 38119879   | T      | 0.01439 |
| rs6767684    | 3          | 38160178   | T      | 0.01617 |
| rs3805040    | 3          | 38287376   | C      | 0.00531 |
| rs149741     | 3          | 38401120   | T      | 0.00837 |
| rs6599214    | 3          | 38604818   | G      | 0.00532 |
| rs6422142    | 3          | 38678162   | G      | 0.00125 |
| rs6599240    | 3          | 38713721   | A      | 0.01454 |
| rs9311196    | 3          | 38734720   | G      | 0.01179 |
| rs12491593   | 3          | 38764283   | G      | 0.00565 |
| rs9847662    | 3          | 38776649   | T      | 0.01462 |
| rs6599027    | 3          | 39469508   | A      | 0.01579 |
| rs4132209    | 3          | 40160639   | C      | 0.01442 |
| rs2679807    | 3          | 40170210   | C      | 0.01217 |
| rs10510721   | 3          | 41559677   | T      | 0.00021 |
| rs9856633    | 3          | 41988854   | T      | 0.00551 |
| rs10865916   | 3          | 42229487   | C      | 0.00353 |
| rs11129950   | 3          | 42289591   | C      | 0.00403 |
| rs17074351   | 3          | 42408309   | G      | 0.00426 |
| rs7639483    | 3          | 42729357   | A      | 0.00493 |
| rs579878     | 3          | 42989054   | A      | 0.00745 |
| rs11708336   | 3          | 45168460   | A      | 0.00756 |
| rs4388012    | 3          | 45971505   | G      | 0.00175 |
| rs17215981   | 3          | 46099422   | C      | 0.01419 |
| rs11191943   | 3          | 46241730   | G      | 0.01504 |
| rs9862388    | 3          | 46479320   | C      | 0.01025 |
| rs9808967    | 3          | 46564298   | T      | 0.00883 |
| rs2280413    | 3          | 46596797   | T      | 0.00603 |
| rs6442008    | 3          | 46620757   | T      | 0.00549 |
| rs7652849    | 3          | 46923530   | G      | 0.00079 |
| rs3772399    | 3          | 47842731   | G      | 0.00837 |
| SNP     | Genotypes | Position | Allele | P-value |
|---------|-----------|----------|--------|---------|
| rs319694| 3         | 47859957 | A      | 0.01198 |
| rs3731544| 3         | 48183001 | A      | 0.01274 |
| rs9837228| 3         | 48299470 | A      | 0.01528 |
| rs13090538 | 3       | 48345773 | C      | 0.00625 |
| rs4441646| 3         | 51395461 | T      | 0.01172 |
| rs9864693| 3         | 51631410 | C      | 0.01090 |
| rs2251219| 3         | 52559827 | T      | 0.01197 |
| rs11242 | 3         | 53100962 | T      | 0.01179 |
| rs3774425| 3         | 53533163 | A      | 0.00755 |
| rs13090538 | 3       | 53624648 | C      | 0.01111 |
| rs7622708| 3         | 54073856 | A      | 0.00978 |
| rs3934631| 3         | 54305495 | G      | 0.00382 |
| rs1530733| 3         | 54364155 | A      | 0.01457 |
| rs9817603| 3         | 54431818 | G      | 0.01449 |
| rs6445664| 3         | 54459140 | A      | 0.01203 |
| rs1317838| 3         | 54798638 | C      | 0.01586 |
| rs9808962| 3         | 54916481 | T      | 0.01133 |
| rs1918070| 3         | 54916618 | T      | 0.01076 |
| rs2048805| 3         | 54946579 | G      | 0.00110 |
| rs17054602| 3        | 54959264 | A      | 0.00803 |
| rs3821659| 3         | 54962963 | A      | 0.01258 |
| rs358005 | 3         | 55096940 | C      | 0.00730 |
| rs458308 | 3         | 55281435 | C      | 0.00540 |
| rs590386 | 3         | 55474447 | A      | 0.01639 |
| rs12106807| 3        | 5553035 | C      | 0.00138 |
| rs2702139| 3         | 55671242 | A      | 0.01289 |
| rs815416 | 3         | 55685495 | C      | 0.01504 |
| rs4542991| 3         | 55800741 | G      | 0.00830 |
| rs4541375| 3         | 55917587 | C      | 0.01014 |
| rs7647972| 3         | 56116883 | C      | 0.00821 |
| rs9874662| 3         | 56123924 | T      | 0.00032 |
| rs17056472| 3        | 56129715 | C      | 0.01266 |
| rs7625422| 3         | 56130461 | C      | 0.01555 |
| rs1452220| 3         | 56233367 | T      | 0.00549 |
| rs9873480| 3         | 56245378 | C      | 0.01530 |
| rs6763275| 3         | 56282743 | G      | 0.01226 |
| rs9881216| 3         | 56491685 | A      | 0.00300 |
| rs4681726 | 3        | 56667682 | C      | 0.00138 |
| rs13063588| 3        | 56852960 | G      | 0.00468 |
| rs6801499| 3         | 57006509 | A      | 0.01296 |
| rs4399856 | 3        | 57055753 | C      | 0.00532 |
| rs13084781| 3        | 57392474 | C      | 0.00967 |
| rs12715520| 3        | 58037232 | C      | 0.01119 |
| rs2178773 | 3        | 58136814 | G      | 0.01140 |
| rs          | chrom | position | ref | alt | p-value |
|-------------|-------|----------|-----|-----|---------|
| rs6807301   | 3     | 58171883 | A   |     | 0.01288 |
| rs6762104   | 3     | 58482360 | G   |     | 0.00037 |
| rs7624292   | 3     | 58719181 | G   |     | 0.01487 |
| rs13090159  | 3     | 59294201 | A   |     | 0.00201 |
| rs2064016   | 3     | 60091095 | A   |     | 0.00523 |
| rs802933    | 3     | 60172525 | A   |     | 0.00469 |
| rs386348    | 3     | 60408264 | A   |     | 0.01346 |
| rs2594141   | 3     | 60783325 | T   |     | 0.00230 |
| rs41347853  | 3     | 60917337 | T   |     | 0.01311 |
| rs11130849  | 3     | 61578941 | A   |     | 0.00612 |
| rs7609954   | 3     | 6161196  | A   |     | 0.01595 |
| rs645957    | 3     | 61738529 | G   |     | 0.00907 |
| rs11923681  | 3     | 62124475 | T   |     | 0.01453 |
| rs4072198   | 3     | 62187107 | G   |     | 0.00903 |
| rs2242352   | 3     | 62256476 | G   |     | 0.00409 |
| rs9883112   | 3     | 62279360 | C   |     | 0.01665 |
| rs1901525   | 3     | 62425082 | T   |     | 0.01512 |
| rs17696120  | 3     | 62526070 | T   |     | 0.00140 |
| rs11130920  | 3     | 63260778 | T   |     | 0.00283 |
| rs1451312   | 3     | 63282908 | T   |     | 0.00633 |
| rs13061130  | 3     | 63306518 | A   |     | 0.00533 |
| rs4688397   | 3     | 63392531 | C   |     | 0.00964 |
| rs1505589   | 3     | 63460528 | G   |     | 0.00631 |
| rs17069000  | 3     | 63500328 | T   |     | 0.01383 |
| rs6785893   | 3     | 63538798 | C   |     | 0.00933 |
| rs17399554  | 3     | 63542394 | T   |     | 0.01591 |
| rs2087704   | 3     | 63795533 | A   |     | 0.00906 |
| rs831571    | 3     | 64023337 | G   |     | 0.01217 |
| rs9812324   | 3     | 64292581 | T   |     | 0.00360 |
| rs719775    | 3     | 64366493 | T   |     | 0.00761 |
| rs10470705  | 3     | 64483477 | C   |     | 0.01545 |
| rs7642335   | 3     | 64510911 | G   |     | 0.00980 |
| rs988487    | 3     | 65163493 | G   |     | 0.00452 |
| rs2371864   | 3     | 65172526 | A   |     | 0.00049 |
| rs9854952   | 3     | 65307422 | T   |     | 0.01364 |
| rs7649739   | 3     | 65373938 | C   |     | 0.00910 |
| rs6762815   | 3     | 65401481 | C   |     | 0.00906 |
| rs4375986   | 3     | 65415821 | G   |     | 0.00431 |
| rs13077233  | 3     | 65493500 | T   |     | 0.01210 |
| rs7612634   | 3     | 65576699 | G   |     | 0.01651 |
| rs7612636   | 3     | 65576717 | C   |     | 0.00885 |
| rs7612644   | 3     | 65576735 | A   |     | 0.01029 |
| rs1495448   | 3     | 65785954 | A   |     | 0.01418 |
| rs10510947  | 3     | 65804384 | G   |     | 0.00877 |
| SNP       | Chrm | Position | Allele | p-value |
|-----------|------|----------|--------|---------|
| rs12487264 | 3    | 66558327 | A      | 0.01356 |
| rs783511   | 3    | 66558558 | A      | 0.01408 |
| rs2198795  | 3    | 67089922 | A      | 0.00366 |
| rs1387866  | 3    | 67439543 | A      | 0.00498 |
| rs2101566  | 3    | 67513045 | C      | 0.01350 |
| rs2362440  | 3    | 67872311 | C      | 0.00835 |
| rs9812892  | 3    | 68923118 | A      | 0.01036 |
| rs2130439  | 3    | 68952118 | C      | 0.00121 |
| rs10470577 | 3    | 68956675 | T      | 0.01433 |
| rs7354285  | 3    | 69594893 | C      | 0.00062 |
| rs10428111 | 3    | 69818348 | A      | 0.00640 |
| rs3121492  | 3    | 69877742 | A      | 0.01102 |
| rs9811939  | 3    | 70451282 | T      | 0.01027 |
| rs4491863  | 3    | 70607102 | G      | 0.01658 |
| rs1565552  | 3    | 70786437 | T      | 0.00462 |
| rs7633132  | 3    | 70874359 | T      | 0.00965 |
| rs831081   | 3    | 71515298 | T      | 0.01001 |
| rs7630905  | 3    | 71555237 | C      | 0.01187 |
| rs31756368 | 3    | 71556906 | C      | 0.00535 |
| rs9878602  | 3    | 71618028 | T      | 0.00668 |
| rs704279   | 3    | 71794669 | C      | 0.01431 |
| rs4552321  | 3    | 72065199 | T      | 0.01145 |
| rs4345037  | 3    | 72065251 | G      | 0.00401 |
| rs906037   | 3    | 72102600 | G      | 0.00989 |
| rs17009330 | 3    | 72179505 | A      | 0.00356 |
| rs11928774 | 3    | 72522839 | T      | 0.01264 |
| rs2118592  | 3    | 72587344 | G      | 0.01322 |
| rs934840   | 3    | 72599055 | T      | 0.01517 |
| rs923573   | 3    | 72779317 | G      | 0.00184 |
| rs1123121  | 3    | 72779850 | G      | 0.00072 |
| rs7637085  | 3    | 72801997 | A      | 0.00585 |
| rs7628968  | 3    | 73253048 | T      | 0.01436 |
| rs557919   | 3    | 73378282 | G      | 0.01601 |
| rs1482170  | 3    | 73445935 | C      | 0.00731 |
| rs11711610 | 3    | 73656047 | A      | 0.00589 |
| rs9310276  | 3    | 73786831 | T      | 0.01528 |
| rs1511530  | 3    | 73852548 | G      | 0.00378 |
| rs6770929  | 3    | 73934726 | C      | 0.00270 |
| rs12488030 | 3    | 74562933 | C      | 0.00136 |
| rs9828888  | 3    | 75043354 | T      | 0.01104 |
| SNP     | rsID   | Chromosome | Position | Allele | P-value |
|---------|--------|------------|----------|--------|---------|
| rs4420916 | 3     | 75072673  | A        | 0.01025 |
| rs6785246 | 3     | 75173405  | T        | 0.01232 |
| rs4635750 | 3     | 75180559  | A        | 0.00879 |
| rs6549701 | 3     | 75277146  | T        | 0.00107 |
| rs9877751 | 3     | 75285062  | T        | 0.01457 |
| rs13083349 | 3    | 75332099  | A        | 0.00465 |
| rs4072316 | 3     | 75352178  | C        | 0.01384 |
| rs6809747 | 3     | 77252417  | T        | 0.01166 |
| rs9876344 | 3     | 77388581  | A        | 0.00452 |
| rs9882239 | 3     | 77405024  | G        | 0.00032 |
| rs974342  | 3     | 77413286  | C        | 0.00413 |
| rs6788301 | 3     | 77855335  | A        | 0.01461 |
| rs11920974 | 3    | 78517533  | T        | 0.00401 |
| rs531125  | 3     | 78997791  | A        | 0.00179 |
| rs7629235 | 3     | 80355605  | G        | 0.01448 |
| rs9883980 | 3     | 80553686  | C        | 0.00044 |
| rs1406781 | 3     | 80677712  | C        | 0.00454 |
| rs7431461 | 3     | 80682502  | C        | 0.00529 |
| rs6786939 | 3     | 80887895  | G        | 0.01568 |
| rs17018482 | 3    | 81212634  | T        | 0.01078 |
| rs2578318 | 3     | 81235306  | T        | 0.01455 |
| rs3772891 | 3     | 81859450  | A        | 0.00877 |
| rs1464790 | 3     | 81935613  | A        | 0.01327 |
| rs1524557 | 3     | 81974721  | G        | 0.01655 |
| rs1464791 | 3     | 81976619  | A        | 0.00755 |
| rs7621968 | 3     | 82034150  | G        | 0.00273 |
| rs7635328 | 3     | 82043128  | A        | 0.01360 |
| rs834858  | 3     | 82742725  | A        | 0.00423 |
| rs12330257 | 3   | 82874037  | T        | 0.00383 |
| rs9842015 | 3     | 83059425  | G        | 0.00914 |
| rs12629030 | 3  | 84771824  | G        | 0.00235 |
| rs7635613 | 3     | 85390651  | A        | 0.00084 |
| rs9847998 | 3     | 85479859  | G        | 0.01072 |
| rs12493423 | 3  | 85484512  | A        | 0.01045 |
| rs9836755 | 3     | 85922061  | A        | 0.01418 |
| rs13093396 | 3   | 86250563  | G        | 0.01266 |
| rs1809631 | 3     | 87329061  | T        | 0.00033 |
| rs12634593 | 3  | 88978938  | T        | 0.00149 |
| rs7634358 | 3     | 89953636  | C        | 0.01050 |
| rs7633240 | 3     | 89987959  | T        | 0.01478 |
| rs12106694 | 3  | 90034988  | A        | 0.00499 |
| rs6551453 | 3     | 90252295  | G        | 0.00310 |
| rs9289536 | 3     | 95031169  | T        | 0.00168 |
| rs9713061 | 3     | 95073766  | T        | 0.00129 |
| SNP     | Chro | Pos       | Ref | Alt | MAF |
|---------|------|-----------|-----|-----|-----|
| rs6810199 | 3    | 95606242  | T   |     | 0.01587 |
| rs11919338 | 3    | 96692513  | T   |     | 0.01366 |
| rs4574293  | 3    | 96693865  | C   |     | 0.00211 |
| rs6787987  | 3    | 96760311  | T   |     | 0.00316 |
| rs6803348  | 3    | 96817623  | G   |     | 0.00514 |
| rs9871481  | 3    | 97187270  | G   |     | 0.01001 |
| rs7612359  | 3    | 97462883  | A   |     | 0.01308 |
| rs9874467  | 3    | 97625924  | C   |     | 0.01006 |
| rs4320074  | 3    | 97837784  | G   |     | 0.00266 |
| rs16803348 | 3    | 98202619  | T   |     | 0.00558 |
| rs16838976 | 3    | 99092149  | C   |     | 0.00004 |
| rs4603997  | 3    | 99511686  | T   |     | 0.00699 |
| rs7639655  | 3    | 99853530  | A   |     | 0.00361 |
| rs2454673  | 3    | 100103809 | A   |     | 0.00347 |
| rs2690231  | 3    | 100257503 | G   |     | 0.00204 |
| rs11720464 | 3    | 103451607 | G   |     | 0.01346 |
| rs16844885 | 3    | 103456100 | G   |     | 0.01063 |
| rs7652417  | 3    | 104347530 | C   |     | 0.01042 |
| rs2103355  | 3    | 105228554 | C   |     | 0.00750 |
| rs1165905  | 3    | 105260479 | T   |     | 0.01601 |
| rs2398993  | 3    | 105513929 | A   |     | 0.00577 |
| rs9841288  | 3    | 105899251 | T   |     | 0.00528 |
| rs2633702  | 3    | 105901394 | A   |     | 0.00895 |
| rs10933805 | 3    | 106260663 | C   |     | 0.00061 |
| rs10933810 | 3    | 106415848 | A   |     | 0.00988 |
| rs4894936  | 3    | 106825705 | G   |     | 0.00530 |
| rs2083948  | 3    | 106828663 | A   |     | 0.01145 |
| rs9872358  | 3    | 107371754 | T   |     | 0.00381 |
| rs7632189  | 3    | 107372793 | C   |     | 0.00276 |
| rs1871274  | 3    | 107385166 | C   |     | 0.01544 |
| rs13085623 | 3    | 107415425 | C   |     | 0.00168 |
| rs7614488  | 3    | 107504190 | T   |     | 0.00537 |
| rs2049118  | 3    | 108010714 | C   |     | 0.01633 |
| rs1520717 | 3 | 108011334 | G | 0.01462 |
| rs1996694 | 3 | 108045770 | C | 0.00942 |
| rs709464 | 3 | 109192434 | A | 0.01243 |
| rs2715734 | 3 | 110180266 | G | 0.00786 |
| rs7637739 | 3 | 110198158 | A | 0.00328 |
| rs9865616 | 3 | 110343625 | T | 0.01185 |
| rs17305051 | 3 | 110444245 | T | 0.01525 |
| rs7611871 | 3 | 110510510 | A | 0.01068 |
| rs1125903 | 3 | 110568968 | A | 0.00582 |
| rs1729595 | 3 | 110782976 | A | 0.01403 |
| rs1729590 | 3 | 110785471 | T | 0.01577 |
| rs1729622 | 3 | 110807269 | C | 0.00699 |
| rs1729616 | 3 | 110814933 | G | 0.01549 |
| rs617108 | 3 | 111147941 | C | 0.00969 |
| rs11916299 | 3 | 111354514 | C | 0.00294 |
| rs10511281 | 3 | 111395314 | A | 0.00189 |
| rs1512512 | 3 | 111785929 | G | 0.01620 |
| rs1381835 | 3 | 112083286 | G | 0.00095 |
| rs16857885 | 3 | 112471474 | A | 0.00236 |
| rs1489024 | 3 | 112485064 | C | 0.00204 |
| rs13083225 | 3 | 112486553 | T | 0.01628 |
| rs17202754 | 3 | 112720470 | T | 0.00216 |
| rs4682298 | 3 | 112929749 | T | 0.00108 |
| rs17490973 | 3 | 113083848 | A | 0.00811 |
| rs17429033 | 3 | 113193088 | C | 0.00071 |
| rs13069887 | 3 | 113411650 | C | 0.01527 |
| rs4347976 | 3 | 113422075 | A | 0.00052 |
| rs4355254 | 3 | 113525909 | G | 7.67100 |
| rs6438068 | 3 | 113539624 | G | 0.01507 |
| rs9815819 | 3 | 113847817 | A | 4.21800 |
| rs1488189 | 3 | 114194061 | A | 0.00203 |
| rs10511319 | 3 | 114316388 | G | 0.00215 |
| rs16860868 | 3 | 114562639 | G | 0.00216 |
| rs2203251 | 3 | 114814925 | G | 0.01445 |
| rs16822416 | 3 | 115373000 | T | 0.00776 |
| rs16822478 | 3 | 115419430 | T | 0.00326 |
| rs1521067 | 3 | 115592268 | C | 0.01209 |
| rs9873283 | 3 | 116622209 | G | 0.01072 |
| rs283377 | 3 | 116889943 | G | 0.01495 |
| rs4476498 | 3 | 117142999 | T | 0.00768 |
| rs12638103 | 3 | 117944322 | G | 0.01444 |
| SNP       | Minor Allele | Chromosome Position | p-Value |
|-----------|--------------|---------------------|---------|
| rs7426651 | T            | 118017277           | 0.00763 |
| rs177720543 | T            | 118726699           | 0.00520 |
| rs7645813 | C            | 119127487           | 0.00298 |
| rs1350158 | T            | 119143663           | 0.00857 |
| rs843853  | G            | 119160491           | 0.01050 |
| rs16827961 | T            | 119316088           | 0.01161 |
| rs2970136 | G            | 120082765           | 0.01570 |
| rs11712211 | G            | 120986830           | 0.00369 |
| rs1403527 | A            | 120989570           | 0.00716 |
| rs1259340 | T            | 121708045           | 0.00631 |
| rs556346  | G            | 122016954           | 0.01033 |
| rs936849  | A            | 122018119           | 0.01653 |
| rs622467  | A            | 122157217           | 0.00237 |
| rs9849118 | A            | 122614958           | 0.01401 |
| rs13321798 | A            | 123086261           | 0.01437 |
| rs1523517 | G            | 123209681           | 0.00273 |
| rs7629297 | T            | 124219868           | 0.01077 |
| rs1123613 | C            | 124236663           | 0.01374 |
| rs2717225 | C            | 124356613           | 0.00639 |
| rs9868971 | A            | 124419559           | 0.01049 |
| rs12493729 | C            | 124447590           | 0.01231 |
| rs16834431 | T            | 124768546           | 0.00240 |
| rs6787049 | C            | 125622819           | 0.00697 |
| rs963651  | T            | 125639321           | 0.01635 |
| rs6763492 | T            | 126184698           | 0.01278 |
| rs6795558 | G            | 126204193           | 0.00280 |
| rs631691  | G            | 126357868           | 0.00435 |
| rs7612285 | C            | 126511050           | 0.01540 |
| rs9809356 | T            | 126612179           | 0.01190 |
| rs7636858 | C            | 126659411           | 0.00614 |
| rs7610077 | C            | 126675824           | 0.00812 |
| rs777491  | G            | 127647472           | 0.00526 |
| rs777496  | C            | 127669194           | 0.00916 |
| rs12492352 | T            | 127748015           | 0.01546 |
| rs7628650 | T            | 127878787           | 0.01205 |
| rs17693752 | G            | 127956000           | 0.01182 |
| rs9856036 | A            | 128267154           | 0.01387 |
| rs9828776 | T            | 128282770           | 0.00321 |
| rs6439067 | G            | 128586530           | 0.00044 |
| rs1543272 | C            | 129070913           | 0.00498 |
| rs11716941 | C            | 129358064           | 0.00303 |
| SNP       | Chr | Inheritance | Reference Allele | p-Value |
|-----------|-----|-------------|------------------|---------|
| rs9830294 | 3   |            | G                | 0.00893 |
| rs2999061 | 3   |            | T                | 0.00755 |
| rs7647218 | 3   |            | G                | 0.01548 |
| rs9871734 | 3   |            | G                | 0.00950 |
| rs9879726 | 3   |            | T                | 0.01659 |
| rs903046  | 3   |            | C                | 0.00833 |
| rs6794179 | 3   |            | T                | 0.00672 |
| rs1389271 | 3   |            | G                | 0.00869 |
| rs903046  | 3   |            | T                | 0.01433 |
| rs16835887| 3   |            | G                | 0.01168 |
| rs925779  | 3   |            | G                | 0.00305 |
| rs10512802| 3   |            | A                | 0.01640 |
| rs6768031 | 3   |            | A                | 0.01086 |
| rs16836261| 3   |            | C                | 0.00973 |
| rs1427835 | 3   |            | C                | 0.01294 |
| rs1505829 | 3   |            | G                | 0.01101 |
| rs10512870| 3   |            | G                | 0.00870 |
| rs17431810| 3   |            | A                | 0.00845 |
| rs9824252 | 3   |            | T                | 0.00549 |
| rs9873398 | 3   |            | A                | 0.00924 |
| rs1013391 | 3   |            | C                | 0.01119 |
| rs6763815 | 3   |            | G                | 0.00905 |
| rs6439381 | 3   |            | C                | 0.00643 |
| rs2369967 | 3   |            | C                | 0.00350 |
| rs1464403 | 3   |            | T                | 0.01537 |
| rs7633217 | 3   |            | G                | 0.01644 |
| rs1568478 | 3   |            | A                | 0.01224 |
| rs4854680 | 3   |            | T                | 0.01636 |
| rs7631593 | 3   |            | T                | 0.01367 |
| rs2049149 | 3   |            | A                | 0.01232 |
| rs4496483 | 3   |            | T                | 0.00530 |
| rs2369970 | 3   |            | T                | 0.00256 |
| rs7638408 | 3   |            | G                | 0.01603 |
| rs7624858 | 3   |            | T                | 0.00497 |
| rs2715632 | 3   |            | A                | 0.00029 |
| rsID     | Chromosome Position |
|----------|---------------------|
| rs2692682 | 3 135077381 T 0.00379 |
| rs2400279 | 3 135555339 G 0.00169 |
| rs2400273 | 3 135589184 G 0.00503 |
| rs6764764 | 3 135813857 T 0.00914 |
| rs9289483 | 3 135920645 G 0.01235 |
| rs361778  | 3 136129859 A 0.00168 |
| rs9704    | 3 136129897 T 0.00062 |
| rs4955459 | 3 136150839 A 0.00465 |
| rs96732200| 3 136153214 A 0.00914 |
| rs3617207 | 3 136153214 A 0.001239 |
| rs681065  | 3 13636932 A 0.00348 |
| rs6439571 | 3 13671974 T 0.00932 |
| rs6439578 | 3 136763883 A 0.00099 |
| rs12629207| 3 138328949 A 0.01607 |
| rs10222397| 3 138570477 C 0.00205 |
| rs4678337 | 3 138638963 A 0.01656 |
| rs17547056| 3 138910369 G 0.01322 |
| rs2170309 | 3 139325796 A 0.01325 |
| rs10935355| 3 141026416 T 0.01430 |
| rs6439890 | 3 141207949 C 0.00701 |
| rs4683805 | 3 141327143 T 0.00201 |
| rs1026780 | 3 141571971 G 0.01190 |
| rs13099847| 3 141580008 C 0.01493 |
| rs4683499 | 3 141662920 C 0.01410 |
| rs349504  | 3 141712135 G 0.00068 |
| rs347973  | 3 141775226 A 0.00833 |
| rs6439578 | 3 141798405 G 0.01349 |
| rs1499876 | 3 141813475 T 0.00061 |
| rs1696201 | 3 141835923 T 0.01558 |
| rs9881950 | 3 141863447 A 0.01025 |
| rs698666  | 3 141881767 A 0.00939 |
| rs3913049 | 3 141868682 A 0.00614 |
| rs4683516 | 3 141890495 C 0.01227 |
| rs7632807 | 3 141968133 G 0.00772 |
| rs1519195 | 3 142072703 G 0.00711 |
| rs10935417| 3 142268524 T 0.01205 |
| rs9823690 | 3 142273269 T 0.01616 |
| rs967526  | 3 142428375 C 0.01329 |
| rs1877223 | 3 142480315 C 0.001027 |
| rs4365602 | 3 142869717 G 0.000085 |
| rs2138789 | 3 142991441 A 0.01450 |
| rs6440043 | 3 143072195 A 0.00864 |
| rs41465652| 3 144923216 G 0.01245 |
| rs1349001 | 3 144965563 C 0.00929 |
| rs             | CHROMOSOME | POSITION     | ALT | SITE TYPE | MOD restoration | MOD restored | P-value |
|---------------|-------------|--------------|-----|-----------|----------------|--------------|---------|
| rs1868179     | 3           | 144988258    | T   | 0.01593   |                |              |         |
| rs17602500    | 3           | 145148707    | C   | 0.00206   |                |              |         |
| rs6778627     | 3           | 145203559    | T   | 4.11800   |                |              |         |
| rs4527375     | 3           | 145218205    | T   | 0.01517   |                |              |         |
| rs4613453     | 3           | 145218290    | C   | 0.01053   |                |              |         |
| rs7611326     | 3           | 145219064    | C   | 0.01587   |                |              |         |
| rs1025984     | 3           | 145238877    | G   | 0.00113   |                |              |         |
| rs1530477     | 3           | 145302196    | G   | 0.00441   |                |              |         |
| rs6440311     | 3           | 146286421    | C   | 0.01133   |                |              |         |
| rs3863992     | 3           | 146736032    | A   | 0.00318   |                |              |         |
| rs9828457     | 3           | 147062910    | T   | 0.01434   |                |              |         |
| rs342899      | 3           | 147761306    | T   | 0.01516   |                |              |         |
| rs6440455     | 3           | 147947303    | G   | 0.01446   |                |              |         |
| rs1521580     | 3           | 148004668    | G   | 0.00389   |                |              |         |
| rs10513290    | 3           | 148043457    | G   | 0.01545   |                |              |         |
| rs10935684    | 3           | 149238020    | T   | 0.01620   |                |              |         |
| rs16860056    | 3           | 149257720    | T   | 0.01217   |                |              |         |
| rs6440527     | 3           | 149258559    | A   | 0.01210   |                |              |         |
| rs1522950     | 3           | 149740904    | G   | 0.01358   |                |              |         |
| rs275690      | 3           | 149828216    | C   | 0.01073   |                |              |         |
| rs11712763    | 3           | 150143157    | T   | 0.00131   |                |              |         |
| rs13072463    | 3           | 150456155    | G   | 0.00240   |                |              |         |
| rs12489083    | 3           | 151256898    | C   | 0.01619   |                |              |         |
| rs1564996     | 3           | 151306814    | T   | 0.01504   |                |              |         |
| rs7627651     | 3           | 151404775    | C   | 0.00206   |                |              |         |
| rs6769917     | 3           | 151992294    | T   | 0.00125   |                |              |         |
| rs41454348    | 3           | 151998413    | A   | 0.01415   |                |              |         |
| rs16863323    | 3           | 152542758    | C   | 0.01032   |                |              |         |
| rs2120982     | 3           | 153012811    | T   | 0.00952   |                |              |         |
| rs9854676     | 3           | 153375537    | C   | 0.01521   |                |              |         |
| rs6771162     | 3           | 153721985    | T   | 0.01216   |                |              |         |
| rs9869338     | 3           | 154226863    | G   | 0.01359   |                |              |         |
| rs16822398    | 3           | 154351388    | A   | 0.01065   |                |              |         |
| rs7622713     | 3           | 154615362    | T   | 0.01062   |                |              |         |
| rs3846073     | 3           | 154798092    | A   | 0.00683   |                |              |         |
| rs16822807    | 3           | 154803470    | G   | 0.01453   |                |              |         |
| rs17744338    | 3           | 154872187    | A   | 0.00704   |                |              |         |
| rs522654      | 3           | 154948599    | A   | 0.01459   |                |              |         |
| rs9850368     | 3           | 154960783    | C   | 0.01194   |                |              |         |
| rs1521302     | 3           | 155153228    | C   | 0.00873   |                |              |         |
| rs16846891    | 3           | 155218309    | T   | 0.01475   |                |              |         |
| rs13080908 | 3 | 155577780 | C | 0.00135 |
| rs3796270 | 3 | 156504521 | A | 0.00021 |
| rs4561871 | 3 | 156556033 | G | 0.01201 |
| rs3924188 | 3 | 156561704 | C | 0.00299 |
| rs10212156 | 3 | 156586078 | A | 0.00094 |
| rs816546 | 3 | 157630062 | G | 0.00863 |
| rs344001 | 3 | 157936101 | C | 0.00299 |
| rs6776647 | 3 | 158470389 | T | 0.01649 |
| rs7645454 | 3 | 158507639 | G | 0.00151 |
| rs3924188 | 3 | 158561704 | C | 0.00299 |
| rs10212156 | 3 | 158586078 | A | 0.00094 |
| rs816546 | 3 | 157630062 | G | 0.00863 |
| rs344001 | 3 | 157936101 | C | 0.00299 |
| rs6776647 | 3 | 158470389 | T | 0.01649 |
| rs7645454 | 3 | 158507639 | G | 0.00151 |
| rs816546 | 3 | 157630062 | G | 0.00863 |
| rs344001 | 3 | 157936101 | C | 0.00299 |
| rs6776647 | 3 | 158470389 | T | 0.01649 |
| rs7645454 | 3 | 158507639 | G | 0.00151 |
| SNP   | Chr | Start | Allele | P-value |
|-------|-----|-------|--------|---------|
| rs17485347 | 17  | 170610213 | A     | 0.00854 |
| rs10936601  | 17  | 171011143 | A     | 0.01138 |
| rs6793160   | 17  | 171017960 | C     | 0.00433 |
| rs16854658  | 17  | 171157100 | G     | 0.00438 |
| rs1990805   | 17  | 171672199 | T     | 0.00821 |
| rs12496334  | 17  | 171793139 | A     | 0.00513 |
| rs12486611  | 17  | 172294982 | A     | 0.00713 |
| rs6789594   | 17  | 172434897 | G     | 0.01256 |
| rs931498    | 17  | 172556310 | G     | 0.01516 |
| rs11716511  | 17  | 172590323 | T     | 0.00520 |
| rs181715    | 17  | 172791538 | T     | 0.00066 |
| rs7633686   | 17  | 172963579 | G     | 0.01489 |
| rs9848640   | 17  | 173027942 | C     | 0.00666 |
| rs6781921   | 17  | 173230050 | G     | 0.00308 |
| rs7625921   | 17  | 173448323 | G     | 0.00505 |
| rs11924521  | 17  | 174059775 | T     | 0.00364 |
| rs12639277  | 17  | 174169855 | T     | 0.00164 |
| rs11916259  | 17  | 174832272 | C     | 0.00756 |
| rs16828950  | 17  | 174845059 | A     | 0.00583 |
| rs1352416   | 17  | 174963401 | G     | 0.00369 |
| rs9829309   | 17  | 175036477 | G     | 0.00709 |
| rs6779415   | 17  | 175046630 | T     | 0.00314 |
| rs12632079  | 17  | 175619121 | C     | 0.00686 |
| rs12637543  | 17  | 175619311 | T     | 0.00163 |
| rs507227    | 17  | 175968504 | C     | 0.01456 |
| rs500999    | 17  | 175978617 | C     | 0.01435 |
| rs9863905   | 17  | 176214706 | T     | 0.00426 |
| rs9863038   | 17  | 176220123 | T     | 0.01428 |
| rs9831769   | 17  | 176238845 | A     | 0.01530 |
| rs2193849   | 17  | 176601359 | A     | 0.00166 |
| rs16825963  | 17  | 176764272 | A     | 0.00806 |
| rs6800441   | 17  | 177560665 | A     | 0.00741 |
| rs963028    | 17  | 177600896 | G     | 0.01160 |
| rs16827475  | 17  | 177986109 | G     | 0.00845 |
| rs2862702   | 17  | 178385355 | T     | 0.01240 |
| rs10513755  | 17  | 178598500 | G     | 0.01097 |
| rs6798789   | 17  | 178904969 | G     | 0.00162 |
| rs1499810   | 17  | 178908229 | G     | 0.01023 |
| rs4857726   | 17  | 178914424 | T     | 0.01032 |
| rs11920864  | 17  | 180292559 | A     | 0.01410 |
| rs6779444   | 17  | 180965720 | C     | 0.00779 |
| rs            | p_value | chromosome | position | allele | log p_value |
|--------------|---------|------------|----------|--------|-------------|
| rs2339913    | 0.00556 | 18         | 104917   | A      |             |
| rs6443681    | 0.00867 | 18         | 149751   | A      |             |
| rs1608796    | 0.01643 | 18         | 45006    | C      |             |
| rs3906013    | 0.01178 | 18         | 46665    | A      |             |
| rs7629793    | 0.01567 | 18         | 58372    | G      |             |
| rs1497891    | 0.01348 | 18         | 64718    | T      |             |
| rs904241     | 0.00851 | 18         | 74371    | C      |             |
| rs6791597    | 0.00580 | 18         | 81172    | A      |             |
| rs1532485    | 0.00042 | 18         | 92867    | T      |             |
| rs7426901    | 0.00504 | 18         | 102675   | G      |             |
| rs17237063   | 0.00879 | 18         | 11208    | C      |             |
| rs6788905    | 0.00353 | 18         | 93807    | C      |             |
| rs9878953    | 0.01628 | 18         | 981452   | G      |             |
| rs7632904    | 0.01220 | 18         | 46579    | G      |             |
| rs4859184    | 0.00471 | 18         | 61193    | C      |             |
| rs2971460    | 0.01408 | 18         | 67742    | T      |             |
| rs9870374    | 0.01480 | 18         | 77709    | G      |             |
| rs7371826    | 0.01627 | 18         | 40264    | A      |             |
| rs747877     | 0.00073 | 18         | 93772    | C      |             |
| rs6788431    | 0.01117 | 18         | 11711    | G      |             |
| rs4686948    | 0.00315 | 18         | 20184    | T      |             |
| rs16859737   | 0.00810 | 18         | 37195    | T      |             |
| rs7431357    | 0.01626 | 18         | 51488    | T      |             |
| rs12163582   | 0.01520 | 18         | 58419    | C      |             |
| rs9863611    | 0.01040 | 18         | 83949    | T      |             |
| rs9844015    | 0.00009 | 18         | 72032    | T      |             |
| rs1558910    | 0.01306 | 18         | 43984    | G      |             |
| rs2193587    | 0.00561 | 18         | 74279    | G      |             |
| rs9872857    | 0.00495 | 18         | 69025    | T      |             |
| rs2070635    | 0.00461 | 18         | 81887    | T      |             |
| rs1624569    | 0.01233 | 18         | 93276    | A      |             |
| rs266764     | 0.01487 | 18         | 94650    | G      |             |
| rs13322676   | 0.01458 | 18         | 20143    | T      |             |
| rs3872724    | 0.01617 | 18         | 22391    | C      |             |
| rs2102860    | 0.00944 | 18         | 59367    | A      |             |
| rs2687926    | 0.01261 | 18         | 63560    | C      |             |
| rs9830704    | 0.00880 | 18         | 70561    | G      |             |
| rs6774087    | 0.00372 | 18         | 16825    | T      |             |
| rs10937312   | 0.00260 | 18         | 80238    | C      |             |
| rs17728902   | 0.00696 | 18         | 87383    | C      |             |
| rs6762932    | 0.01268 | 18         | 93169    | A      |             |
| rs16848772   | 0.00087 | 18         | 25829    | C      |             |
| rs4686952    | 0.00503 | 18         | 53153    | A      |             |
| rs4686967    | 0.01129 | 18         | 70567    | G      |             |
| rsID      | Chromosome | Position | Minor Allele | Minor Allele Frequency |
|-----------|------------|----------|--------------|------------------------|
| rs17429491 | 3          | 190732822 | T            | 0.01181                |
| rs1364596  | 3          | 190743319 | G            | 0.00780                |
| rs3846096  | 3          | 190764506 | G            | 0.00515                |
| rs1881990  | 3          | 190823284 | G            | 0.00336                |
| rs6776687  | 3          | 190881091 | A            | 0.00668                |
| rs4687094  | 3          | 191011546 | A            | 0.00382                |
| rs41396746 | 3          | 1910619   | T            | 0.01181                |
| rs9834518  | 3          | 19117916  | T            | 0.00444                |
| rs7632740  | 3          | 191206191 | G            | 0.00515                |
| rs1436656  | 3          | 19123841  | G            | 0.00336                |
| rs2378568  | 3          | 191253292 | T            | 0.00382                |
| rs9837705  | 3          | 191273841 | G            | 0.00515                |
| rs3774028  | 3          | 191280803 | C            | 0.01026                |
| rs3773983  | 3          | 191361726 | A            | 0.0126                 |
| rs6444640  | 3          | 191356935 | A            | 0.00357                |
| rs2135189  | 3          | 191462419 | T            | 0.00446                |
| rs17427594 | 3          | 191467837 | T            | 0.01334                |
| rs9837705  | 3          | 191473777 | C            | 0.00467                |
| rs3774028  | 3          | 191510966 | A            | 0.00273                |
| rs6807826  | 3          | 192205117 | T            | 0.01597                |
| rs6793796  | 3          | 193459773 | G            | 0.00393                |
| rs4687304  | 3          | 193461726 | A            | 0.0162                 |
| rs6798854  | 3          | 193536935 | A            | 0.00357                |
| rs6444640  | 3          | 193632921 | C            | 0.0162                 |
| rs2173796  | 3          | 194970765 | G            | 0.00820                |
| rs2636914  | 3          | 195136231 | C            | 0.00981                |
| rs6444755  | 3          | 195150211 | T            | 0.01154                |
| rs2636909  | 3          | 195150527 | G            | 0.0152                 |
| rs4076187  | 3          | 195400624 | T            | 0.00896                |
| rs14676733 | 3          | 195602287 | C            | 0.00568                |
| rs6437390  | 3          | 195776040 | C            | 0.01020                |
| rs823009   | 3          | 196155403 | A            | 0.00088                |
| rs2046969  | 3          | 197132905 | C            | 0.00542                |
| rs433811   | 3          | 198501197 | C            | 0.00073                |
| rs9859281  | 3          | 198797165 | G            | 0.01065                |
| rs842166   | 3          | 198797230 | T            | 0.00477                |
| rs2082270  | 3          | 198799512 | C            | 0.00811                |
| rs7613131  | 3          | 198812273 | G            | 0.00674                |
| rs12107047 | 3          | 198931284 | C            | 0.01376                |
| rs3775110  | 4          | 1152022   | G            | 0.01601                |
| rs798754   | 4          | 1690555   | A            | 0.00938                |
| rs382441   | 4          | 1978893   | C            | 0.01315                |
| rs554222   | 4          | 2124815   | A            | 0.01326                |
| rs10488836 | 4          | 2130692   | T            | 0.00602                |
| rs6599427  | 4          | 2314490   | T            | 0.00407                |
| SNP                  | Study ID | Chromosome Position | Allele 1 | p-value |
|---------------------|----------|---------------------|----------|---------|
| rs704352            | 4        | 2456284             | A        | 0.00049 |
| rs11945928          | 4        | 2663879             | T        | 0.01176 |
| rs4690002           | 4        | 2811038             | T        | 0.01469 |
| rs3025838           | 4        | 3131244             | A        | 0.00026 |
| rs41347150          | 4        | 3279182             | C        | 0.01287 |
| rs1188582           | 4        | 3556038             | A        | 0.01089 |
| rs4348044           | 4        | 4903768             | G        | 0.01317 |
| rs7699934           | 4        | 5021633             | C        | 0.01180 |
| rs6817353           | 4        | 5292472             | C        | 0.00332 |
| rs16837064          | 4        | 5434203             | C        | 0.01349 |
| rs10937641          | 4        | 5435157             | G        | 0.01467 |
| rs16837127          | 4        | 5449613             | C        | 0.01351 |
| rs16837389          | 4        | 5587211             | T        | 0.01159 |
| rs2291157           | 4        | 5771922             | C        | 0.01276 |
| rs10937678          | 4        | 5848389             | T        | 0.00483 |
| rs3821936           | 4        | 5880158             | T        | 0.01087 |
| rs13107008          | 4        | 6012896             | C        | 0.00899 |
| rs4689318           | 4        | 6069792             | C        | 0.00528 |
| rs6812643           | 4        | 6203072             | G        | 0.00902 |
| rs16838645          | 4        | 6421256             | G        | 0.01067 |
| rs10013211          | 4        | 7058979             | A        | 0.00296 |
| rs11931598          | 4        | 7098003             | A        | 0.01613 |
| rs731634            | 4        | 7511247             | A        | 0.01490 |
| rs7675528           | 4        | 7514665             | T        | 0.00643 |
| rs17368264          | 4        | 7666095             | C        | 0.00082 |
| rs6837688           | 4        | 7685720             | G        | 0.00080 |
| rs1574414           | 4        | 8100956             | G        | 0.01440 |
| rs1298472           | 4        | 8253741             | T        | 0.00378 |
| rs9985550           | 4        | 8340707             | G        | 0.01289 |
| rs4270574           | 4        | 8366130             | G        | 0.00695 |
| rs10939507          | 4        | 9377921             | A        | 0.00512 |
| rs11934363          | 4        | 9521199             | C        | 0.00209 |
| rs6826764           | 4        | 9639892             | G        | 0.00307 |
| rs10516201          | 4        | 9733039             | G        | 0.00903 |
| rs4444830           | 4        | 9733917             | G        | 0.00463 |
| rs4697718           | 4        | 9783237             | A        | 0.00721 |
| rs4697727           | 4        | 9797020             | A        | 0.01445 |
| rs6826450           | 4        | 9817876             | G        | 0.00443 |
| rs6855489           | 4        | 9817986             | A        | 0.00452 |
| rs7692559           | 4        | 9899824             | A        | 0.00440 |
| rs17477561          | 4        | 9924194             | G        | 0.01345 |
| rs11736056          | 4        | 10562494            | T        | 0.01491 |
| rs11736131          | 4        | 10571494            | A        | 0.00381 |
| rs10025796          | 4        | 10582659            | A        | 0.00606 |
| rsID       | Chrs | POS   | Breed | p-value |
|------------|------|-------|-------|---------|
| rs2128863  | 4    | 10611626 | T     | 0.01416 |
| rs2869765  | 4    | 10617880 | A     | 0.01014 |
| rs7681347  | 4    | 10687755 | C     | 0.00114 |
| rs7685923  | 4    | 10691247 | A     | 0.01648 |
| rs4697838  | 4    | 10701650 | A     | 0.00412 |
| rs4697839  | 4    | 10701939 | G     | 0.01565 |
| rs16878217 | 4    | 10728210 | G     | 0.01046 |
| rs16878245 | 4    | 10730190 | A     | 0.01077 |
| rs7659670  | 4    | 10784850 | T     | 0.01037 |
| rs1358440  | 4    | 10884659 | C     | 0.01405 |
| rs2108955  | 4    | 11219566 | A     | 0.00756 |
| rs1563254  | 4    | 11837504 | T     | 0.01632 |
| rs1481186  | 4    | 12156813 | T     | 0.00396 |
| rs7681347  | 4    | 13143506 | A     | 0.01451 |
| rs7671621  | 4    | 13337604 | G     | 0.01162 |
| rs1001856  | 4    | 13480160 | A     | 0.00670 |
| rs1629359  | 4    | 13574822 | C     | 0.01179 |
| rs6818005  | 4    | 13766514 | T     | 0.01316 |
| rs218815   | 4    | 14075895 | C     | 0.00523 |
| rs10016726 | 4    | 14342870 | C     | 0.00949 |
| rs4577573  | 4    | 14360658 | C     | 0.00835 |
| rs4502675  | 4    | 14391557 | T     | 0.01429 |
| rs12502866 | 4    | 14399576 | C     | 0.00673 |
| rs6449211  | 4    | 15607568 | T     | 0.00296 |
| rs7657627  | 4    | 16021149 | G     | 0.00183 |
| rs955943   | 4    | 16123506 | G     | 0.01347 |
| rs1496742  | 4    | 16217775 | A     | 0.00147 |
| rs1483007  | 4    | 16468140 | C     | 0.00401 |
| rs6858723  | 4    | 16711264 | T     | 0.00119 |
| rs1450669  | 4    | 17078540 | A     | 0.00811 |
| rs3796809  | 4    | 17112937 | T     | 0.01575 |
| rs13103430 | 4    | 17176453 | A     | 0.00725 |
| rs4698629  | 4    | 17217982 | G     | 0.00683 |
| rs4698634  | 4    | 17239290 | A     | 0.00717 |
| rs16896068 | 4    | 17553938 | T     | 0.01056 |
| rs1553460  | 4    | 17804959 | A     | 0.01516 |
| rs13147572 | 4    | 17902242 | G     | 0.00093 |
| rs1382092  | 4    | 18091669 | C     | 0.00086 |
rs10025598  4  18389690  T  0.00646
rs16897607  4  18411898  G  0.01180
rs6449420  4  18415983  A  0.00359
rs1914604  4  18460046  T  0.01227
rs17534953  4  18580389  A  0.00199
rs16898029  4  18656715  T  0.00834
rs312352  4  18871602  G  0.00015
rs13117987  4  18898037  A  0.01180
rs9995581  4  19054034  A  0.00687
rs4440215  4  19115959  A  0.01401
rs4577579  4  19118623  C  0.01279
rs4642242  4  19164533  A  0.00951
rs11734810  4  19190933  C  0.01297
rs16868634  4  19203653  T  0.01445
rs1032258  4  19216491  T  0.01591
rs41532447  4  19525054  A  0.00135
rs1026973  4  19621253  C  0.00112
rs2062396  4  19700052  C  0.00112
rs10516349  4  19895577  T  0.00401
rs17609702  4  20034686  A  0.00593
rs6811111  4  20537595  T  0.00631
rs6817687  4  20694428  A  0.01118
rs4599408  4  20697443  A  0.01631
rs16870439  4  20747254  A  0.00486
rs6829666  4  20766579  T  0.00749
rs1836087  4  20781183  T  0.01523
rs6821250  4  20781282  T  0.01582
rs1319225  4  20790093  C  0.00849
rs16870621  4  20853990  T  0.01138
rs2323071  4  21237808  T  0.00645
rs1380272  4  21364804  T  0.00088
rs10938922  4  22426215  G  0.01142
rs615604  4  23597866  C  0.00623
rs16875034  4  23722172  A  0.01342
rs11721883  4  24006774  G  0.01585
rs800453  4  24427607  G  0.00991
rs13131918  4  24482702  G  0.00024
rs4697489  4  24495197  C  0.01420
rs10020414  4  25394544  A  0.01515
rs6841440  4  25654795  A  0.00832
rs7684555  4  25655054  G  0.01614
rs2137231  4  25657239  A  0.00957
rs6825740  4  25847772  T  0.00876
rs6821126  4  25951636  T  0.00637
| SNP          | Chromosome | Position  | Allele | Minor Allele Frequency |
|--------------|------------|-----------|--------|------------------------|
| rs2153155    | 4          | 25966991  | C      | 0.00983                |
| rs13134710   | 4          | 26051306  | C      | 0.01543                |
| rs10939139   | 4          | 26458873  | T      | 0.00744                |
| rs7660174    | 4          | 26461536  | A      | 0.00435                |
| rs7671671    | 4          | 26462750  | A      | 0.01085                |
| rs10032186   | 4          | 26571971  | A      | 0.00457                |
| rs7660174    | 4          | 26461536  | A      | 0.00435                |
| rs7671671    | 4          | 26462750  | A      | 0.01085                |
| rs10032186   | 4          | 26571971  | A      | 0.00457                |
| rs210775     | 4          | 27040647  | A      | 0.01432                |
| rs297291     | 4          | 27280901  | G      | 0.00036                |
| rs7439266    | 4          | 27290532  | A      | 0.01149                |
| rs2036184    | 4          | 27954873  | G      | 0.01484                |
| rs1567492    | 4          | 28151604  | G      | 0.00267                |
| rs2458628    | 4          | 28188118  | T      | 0.00754                |
| rs2101697    | 4          | 28261899  | A      | 0.01224                |
| rs12639959   | 4          | 28749027  | G      | 0.01571                |
| rs2310033    | 4          | 29050829  | G      | 0.01484                |
| rs1816773    | 4          | 29257846  | G      | 0.01598                |
| rs6448704    | 4          | 29986062  | C      | 0.00135                |
| rs203140     | 4          | 30045586  | C      | 0.01217                |
| rs1588610    | 4          | 30118029  | G      | 0.01622                |
| rs10031821   | 4          | 30131509  | T      | 0.00837                |
| rs1818442    | 4          | 30142909  | C      | 0.01108                |
| rs767478     | 4          | 30239480  | T      | 0.00535                |
| rs10010739   | 4          | 30713894  | T      | 0.01025                |
| rs10014802   | 4          | 31757023  | C      | 0.00671                |
| rs11133180   | 4          | 31773932  | C      | 0.01112                |
| rs1118106    | 4          | 31825250  | C      | 0.00029                |
| rs17080898   | 4          | 31838839  | G      | 0.01575                |
| rs17080915   | 4          | 31845118  | C      | 0.00239                |
| rs17299248   | 4          | 31845304  | A      | 0.01097                |
| rs902658     | 4          | 31864983  | G      | 0.01156                |
| rs2404759    | 4          | 31865170  | C      | 0.01551                |
| rs2166280    | 4          | 32148566  | A      | 0.01346                |
| rs11933744   | 4          | 32224652  | T      | 0.00074                |
| rs9306915    | 4          | 32706365  | A      | 0.01393                |
| rs9990848    | 4          | 32739241  | A      | 0.00907                |
| rs28577134   | 4          | 32742832  | G      | 0.00509                |
| rs2337724    | 4          | 33025184  | A      | 0.01340                |
| rs41385647   | 4          | 33629567  | C      | 0.00772                |
| rs1425509    | 4          | 34083700  | T      | 0.01275                |
| rs16990031   | 4          | 34263988  | T      | 0.00038                |
| rs16990131   | 4          | 34349710  | T      | 0.00241                |
| SNP          | Chromosome | Position | Allele | P-value |
|-------------|------------|----------|--------|---------|
| rs1511859   | 4          | 34392989 | A      | 0.00569 |
| rs1399125   | 4          | 35169074 | G      | 0.00223 |
| rs16992647  | 4          | 36489500 | A      | 0.00636 |
| rs13144081  | 4          | 36786141 | C      | 0.01432 |
| rs1342993   | 4          | 36864308 | C      | 0.00267 |
| rs11723214  | 4          | 36890057 | G      | 0.01469 |
| rs17495047  | 4          | 37290325 | A      | 0.00848 |
| rs961082    | 4          | 37404017 | T      | 0.01430 |
| rs933820    | 4          | 37702617 | C      | 0.01172 |
| rs13144081  | 4          | 36786141 | C      | 0.01432 |
| rs1342993   | 4          | 36864308 | C      | 0.00267 |
| rs11723214  | 4          | 36890057 | G      | 0.01469 |
| rs17495047  | 4          | 37290325 | A      | 0.00848 |
| rs961082    | 4          | 37404017 | T      | 0.01430 |
| rs933820    | 4          | 37702617 | C      | 0.01172 |
| rs13144081  | 4          | 36786141 | C      | 0.01432 |
| rs1342993   | 4          | 36864308 | C      | 0.00267 |
| rs11723214  | 4          | 36890057 | G      | 0.01469 |
| rs17495047  | 4          | 37290325 | A      | 0.00848 |
| rs961082    | 4          | 37404017 | T      | 0.01430 |
| rs933820    | 4          | 37702617 | C      | 0.01172 |
| rs13144081  | 4          | 36786141 | C      | 0.01432 |
| rs1342993   | 4          | 36864308 | C      | 0.00267 |
| rs11723214  | 4          | 36890057 | G      | 0.01469 |
| rs17495047  | 4          | 37290325 | A      | 0.00848 |
| rs961082    | 4          | 37404017 | T      | 0.01430 |
| rs933820    | 4          | 37702617 | C      | 0.01172 |
| rs13144081  | 4          | 36786141 | C      | 0.01432 |
| rs1342993   | 4          | 36864308 | C      | 0.00267 |
| rs11723214  | 4          | 36890057 | G      | 0.01469 |
| rs17495047  | 4          | 37290325 | A      | 0.00848 |
| rs961082    | 4          | 37404017 | T      | 0.01430 |
| rs933820    | 4          | 37702617 | C      | 0.01172 |
| rs13144081  | 4          | 36786141 | C      | 0.01432 |
| rs1342993   | 4          | 36864308 | C      | 0.00267 |
| rs11723214  | 4          | 36890057 | G      | 0.01469 |
| rs17495047  | 4          | 37290325 | A      | 0.00848 |
| rs961082    | 4          | 37404017 | T      | 0.01430 |
| rs933820    | 4          | 37702617 | C      | 0.01172 |
| rs13144081  | 4          | 36786141 | C      | 0.01432 |
| rs1342993   | 4          | 36864308 | C      | 0.00267 |
| rs10007288 |  4 | 47784892 | T | 0.01243 |
| rs11725773 |  4 | 47891092 | A | 0.00739 |
| rs6554072  |  4 | 53774304 | C | 0.00990 |
| rs9999406  |  4 | 54076102 | C | 0.00988 |
| rs17717891 |  4 | 54144358 | T | 0.00832 |
| rs2616410  |  4 | 54166224 | A | 0.01560 |
| rs1547905  |  4 | 54841511 | A | 0.00313 |
| rs13434995 |  4 | 56161971 | A | 0.00341 |
| rs9999406  |  4 | 54076102 | C | 0.00988 |
| rs11725773 |  4 | 47891092 | A | 0.00739 |
| rs6554072  |  4 | 53774304 | C | 0.00990 |
| rs1547905  |  4 | 54841511 | A | 0.00313 |
| SNP          | CHROMOSOME | START_POSITION | CHROMOSOME_PHASE | P_VALUE |
|--------------|------------|----------------|------------------|---------|
| rs6840349    | 4          | 64613934       | A                | 0.01310 |
| rs12651540   | 4          | 64767521       | C                | 0.01595 |
| rs6817560    | 4          | 64827255       | T                | 0.00419 |
| rs1601076    | 4          | 64935458       | G                | 0.01005 |
| rs10517893   | 4          | 64952717       | G                | 0.00184 |
| rs9998808    | 4          | 64955197       | A                | 0.01212 |
| rs2198103    | 4          | 65954774       | A                | 0.00611 |
| rs17086363   | 4          | 66310557       | G                | 0.00470 |
| rs1601076    | 4          | 66401913       | A                | 0.01068 |
| rs10517893   | 4          | 66952717       | A                | 0.01579 |
| SNP     | CHROMOSOME | POSITION     | REFERENCE | ALLELE | MAF |
|---------|------------|--------------|-----------|--------|-----|
| rs6828409 | 4          | 75431587     | G         | 0.01437 |
| rs6854845 | 4          | 75965689     | C         | 0.01079 |
| rs6827697 | 4          | 76204933     | G         | 0.00936 |
| rs1700197 | 4          | 76215877     | A         | 0.00170 |
| rs1700199 | 4          | 76216335     | A         | 0.00358 |
| rs4859581 | 4          | 77125998     | G         | 0.00467 |
| rs4422436 | 4          | 77196808     | G         | 0.00142 |
| rs1114091 | 4          | 77363283     | A         | 0.00115 |
| rs17000199| 4          | 77396841     | T         | 0.01144 |
| rs11721509| 4          | 77397403     | T         | 0.00894 |
| rs35471029| 4          | 77909836     | C         | 0.00467 |
| rs4859879 | 4          | 78941339     | T         | 0.01475 |
| rs11097938| 4          | 78954919     | A         | 0.00689 |
| rs4577601 | 4          | 79077539     | A         | 0.01441 |
| rs12641050| 4          | 79143992     | A         | 0.00249 |
| rs7657082 | 4          | 79755464     | A         | 0.01195 |
| rs1545805 | 4          | 80133431     | T         | 0.00531 |
| rs1383421 | 4          | 80154502     | G         | 0.00596 |
| rs899900  | 4          | 80158557     | G         | 0.00483 |
| rs17003582| 4          | 80168623     | T         | 0.01194 |
| rs2604828 | 4          | 80202969     | C         | 0.00253 |
| rs6817424 | 4          | 81217787     | C         | 0.01208 |
| rs2903651 | 4          | 81222545     | C         | 0.01508 |
| rs12650677| 4          | 81442178     | T         | 0.01114 |
| rs6822305 | 4          | 81471743     | T         | 0.01047 |
| rs7683819 | 4          | 81597990     | G         | 0.01338 |
| rs4346635 | 4          | 81705296     | A         | 0.00990 |
| rs10025495| 4          | 81759113     | T         | 0.00543 |
| rs10213174| 4          | 82053941     | C         | 0.01272 |
| rs10004901| 4          | 82116029     | G         | 0.01190 |
| rs2685468 | 4          | 82208527     | C         | 0.00355 |
| rs7675843 | 4          | 82254091     | G         | 0.00603 |
| rs13128387| 4          | 82636616     | G         | 0.00835 |
| rsID       | Position     | SNP   | MAF  |
|-----------|--------------|-------|------|
| rs4574400 | 82827868     | A     | 0.00173 |
| rs6839535 | 82829803     | C     | 0.00426 |
| rs9996469 | 82833681     | T     | 0.01279 |
| rs4693369 | 82890258     | A     | 0.00549 |
| rs7676420 | 83784882     | G     | 0.01235 |
| rs7685043 | 84011522     | C     | 0.00747 |
| rs11099561| 84105925     | G     | 0.00269 |
| rs6827060 | 85368152     | A     | 0.00429 |
| rs7685043 | 85594591     | C     | 0.01280 |
| rs11728145| 85903170     | G     | 0.00578 |
| rs17387199| 86659782     | C     | 0.00863 |
| rs1994069 | 86686809     | G     | 0.01548 |
| rs346500  | 87072582     | A     | 0.00695 |
| rs17012007| 87844757     | C     | 0.00163 |
| rs10015508| 88013326     | G     | 0.01325 |
| rs6811350 | 88018240     | G     | 0.00878 |
| rs431836  | 88192729     | T     | 0.00831 |
| rs11733008| 88890962     | G     | 0.00678 |
| rs7696304 | 89179022     | G     | 0.00128 |
| rs10024717| 89438669     | C     | 0.00781 |
| rs2602117 | 89848089     | A     | 0.00929 |
| rs17014666| 89983966     | T     | 0.01238 |
| rs6829149 | 90609910     | C     | 0.01218 |
| rs1837890 | 90955029     | T     | 0.01248 |
| rs1442143 | 90955047     | T     | 0.01127 |
| rs2583983 | 90972983     | C     | 0.00287 |
| rs12649663| 91142273     | G     | 0.00454 |
| rs17016827| 91488705     | A     | 0.00333 |
| rs4693266 | 92337328     | G     | 0.00571 |
| rs12646638| 92599947     | G     | 0.00654 |
| rs9991015 | 92739442     | C     | 0.00822 |
| rs10014070| 92740065     | A     | 0.00498 |
| rs10213431| 92857897     | A     | 0.00087 |
| rs4513527 | 92975976     | C     | 0.01569 |
| rs6858269 | 93237113     | C     | 0.00220 |
| rs6837448 | 93254945     | C     | 0.01261 |
| rs7691723 | 94404728     | G     | 0.00859 |
| rs4699421 | 96474594     | T     | 0.00514 |
| rs2621455 | 9651515    | C     | 0.00517 |
| rs6824501 | 96522013     | G     | 0.00045 |
| rs10017332| 96561773     | T     | 0.00754 |
| rs11097493| 97239637     | A     | 0.01389 |
| rs10006108| 98143036     | G     | 0.01422 |
| rs1381822 | 98462402     | G     | 0.00917 |
| SNP      | AA  | Allele 1   | Allele 2 | Minor Allele Frequency |
|----------|-----|------------|----------|------------------------|
| rs9991048| 4   | 99651816   | C        | 0.00832                |
| rs4699345| 4   | 99685529   | T        | 0.00391                |
| rs4235430| 4   | 99887334   | T        | 0.01066                |
| rs10516438| 4  | 100065138  | G        | 0.01443                |
| rs17216446| 4  | 100195669  | A        | 0.00706                |
| rs13134954| 4  | 100932644  | A        | 0.00943                |
| rs11735070| 4  | 100932788  | C        | 0.00480                |
| rs10516464| 4  | 101552381  | T        | 0.00596                |
| rs1846878 | 4  | 101600793  | G        | 0.01641                |
| rs1392880 | 4  | 101714865  | G        | 0.00639                |
| rs7695269 | 4  | 101963962  | A        | 0.00671                |
| rs12647454| 4  | 102081481  | A        | 0.01504                |
| rs2119601 | 4  | 102392909  | T        | 0.00437                |
| rs230529  | 4   | 103676448  | C        | 0.01177                |
| rs1598859 | 4   | 103725482  | A        | 0.01087                |
| rs4648068 | 4   | 103737343  | A        | 0.01640                |
| rs2725771 | 4   | 105978188  | A        | 0.00342                |
| rs3886330 | 4   | 105991543  | C        | 0.00989                |
| rs6533163 | 4   | 106013709  | T        | 0.01433                |
| rs17035270| 4   | 106255994  | G        | 0.01337                |
| rs2726506 | 4   | 106528167  | A        | 0.01320                |
| rs4699182 | 4   | 106633149  | C        | 0.00475                |
| rs7672413 | 4   | 106698459  | T        | 0.00505                |
| rs2866792 | 4   | 106708112  | A        | 0.00328                |
| rs11930965| 4   | 106814074  | C        | 0.01500                |
| rs10028834| 4   | 108073042  | C        | 0.01110                |
| rs17037205| 4   | 108142950  | G        | 0.00744                |
| rs403608  | 4   | 108235182  | A        | 0.00078                |
| rs10155071| 4   | 108323818  | C        | 0.00488                |
| rs2726164 | 4   | 108685112  | G        | 0.00292                |
| rs11097982| 4   | 109510233  | A        | 0.00445                |
| rs1405159 | 4   | 110115596  | A        | 0.00078                |
| rs1648016 | 4   | 110149096  | A        | 0.01191                |
| rs3108958 | 4   | 110227110  | T        | 0.00847                |
| rs12646527| 4   | 110227270  | T        | 0.01220                |
| rs10026219| 4   | 110430566  | A        | 0.01366                |
| rs4541508 | 4   | 110901936  | G        | 0.01365                |
| rs9991367 | 4   | 111113750  | A        | 0.00412                |
| rs17552333| 4   | 111652858  | A        | 0.00467                |
| rs6852021 | 4   | 111963561  | A        | 0.00443                |
| rs9307361 | 4   | 112168892  | G        | 0.01590                |
| rs159476  | 4   | 112171839  | C        | 0.00940                |
| rs159471  | 4   | 112180135  | G        | 0.01072                |
| rs11098097| 4   | 112287053  | A        | 0.00472                |
| SNP      | Chromosome | Position     | Allele | P-value |
|----------|------------|--------------|--------|---------|
| rs17589367 | 4          | 113435284    | G      | 0.00583 |
| rs879068   | 4          | 113598950    | A      | 0.01421 |
| rs12504906 | 4          | 114173750    | T      | 0.00445 |
| rs6533666  | 4          | 114234985    | G      | 0.00734 |
| rs17446453 | 4          | 114641161    | A      | 0.00819 |
| rs4834347  | 4          | 114645383    | A      | 0.00769 |
| rs11098193 | 4          | 114648856    | A      | 0.01373 |
| rs6821520  | 4          | 114732247    | T      | 0.01205 |
| rs3942964  | 4          | 115328814    | C      | 0.00941 |
| rs3924717  | 4          | 115460993    | A      | 0.00147 |
| rs4385142  | 4          | 115660061    | A      | 0.01652 |
| rs41352946 | 4          | 115668021    | T      | 0.01194 |
| rs9991654  | 4          | 116010529    | T      | 0.01278 |
| rs7680117  | 4          | 116949884    | T      | 0.00034 |
| rs7697741  | 4          | 117024524    | G      | 0.01511 |
| rs1906694  | 4          | 117400685    | T      | 0.01067 |
| rs7669497  | 4          | 117428886    | C      | 0.01608 |
| rs6832218  | 4          | 117435227    | C      | 0.00537 |
| rs11935514 | 4          | 117488271    | G      | 0.01424 |
| rs41518644 | 4          | 117488695    | G      | 0.00673 |
| rs17048529 | 4          | 117544399    | G      | 0.01471 |
| rs10024666 | 4          | 117909770    | C      | 0.01184 |
| rs1440312  | 4          | 118055468    | G      | 0.00465 |
| rs977017   | 4          | 118214880    | T      | 0.00883 |
| rs4501289  | 4          | 118541939    | A      | 0.01465 |
| rs10018600 | 4          | 118996306    | T      | 0.00579 |
| rs9992827  | 4          | 119330665    | G      | 0.00490 |
| rs7670182  | 4          | 119935786    | T      | 0.00090 |
| rs10518324 | 4          | 119937161    | T      | 0.00247 |
| rs17325192 | 4          | 119999793    | A      | 0.00757 |
| rs17517470 | 4          | 120495764    | C      | 0.01126 |
| rs10006706 | 4          | 120628600    | A      | 0.01441 |
| rs12510138 | 4          | 120643383    | G      | 0.00004 |
| rs10026533 | 4          | 121913509    | C      | 0.01162 |
| rs1588524  | 4          | 121986119    | T      | 0.00351 |
| rs4532258  | 4          | 122156529    | G      | 0.00533 |
| rs34766411 | 4          | 122177009    | G      | 0.00626 |
| rs6829190  | 4          | 122203473    | T      | 0.00343 |
| rs2136948  | 4          | 122215148    | A      | 0.00464 |
| rs13138476 | 4          | 122220644    | G      | 0.00197 |
| rs13128284 | 4          | 122235041    | C      | 0.01092 |
| rs2102646  | 4          | 122608859    | C      | 0.01278 |
| rs4546266  | 4          | 122874293    | G      | 0.01425 |
| rs17005387 | 4          | 123156648    | A      | 0.00748 |
| SNP         | Position | Haplotype | P-value |
|-------------|----------|-----------|---------|
| rs17006928  | 4        | 124581485 | 0.00896 |
| rs17007339  | 4        | 124899190 | 0.01463 |
| rs9992459   | 4        | 124901195 | 0.01662 |
| rs893558    | 4        | 125298311 | 0.01503 |
| rs1608462   | 4        | 125498130 | 0.01616 |
| rs17008284  | 4        | 125660620 | 0.00584 |
| rs2170743   | 4        | 126084103 | 0.00718 |
| rs2710551   | 4        | 126417894 | 0.01359 |
| rs925243    | 4        | 126534484 | 0.00497 |
| rs2390896   | 4        | 127017986 | 0.00632 |
| rs11932292  | 4        | 127027641 | 0.01100 |
| rs17291185  | 4        | 127865196 | 0.00854 |
| rs2172478   | 4        | 128379976 | 0.00741 |
| rs17315466  | 4        | 129174097 | 0.00170 |
| rs7655151   | 4        | 129516372 | 0.01511 |
| rs17013256  | 4        | 129532392 | 0.01131 |
| rs1980945   | 4        | 130348262 | 0.01184 |
| rs587191    | 4        | 130633524 | 0.00552 |
| rs958409    | 4        | 131253674 | 0.01025 |
| rs2172478   | 4        | 131281403 | 0.01330 |
| rs1552802   | 4        | 131281674 | 0.00972 |
| rs4473663   | 4        | 131601175 | 0.01407 |
| rs6845004   | 4        | 131632208 | 0.00458 |
| rs2861394   | 4        | 132429544 | 0.00813 |
| rs6847963   | 4        | 133143041 | 0.00246 |
| rs1511333   | 4        | 133148446 | 0.00188 |
| rs17468426  | 4        | 133148931 | 0.00007 |
| rs1499348   | 4        | 133572980 | 0.00303 |
| rs1875024   | 4        | 133615345 | 0.01410 |
| rs7671052   | 4        | 134324454 | 0.01149 |
| rs7691662   | 4        | 135291303 | 0.01101 |
| rs7663402   | 4        | 135469395 | 0.00490 |
| rs7654065   | 4        | 136731472 | 0.00150 |
| rs692855    | 4        | 136735906 | 0.01371 |
| rs11737477  | 4        | 136740519 | 0.01158 |
| rs13119704  | 4        | 136748977 | 0.00115 |
| rs6811227   | 4        | 136870694 | 0.01293 |
| rs17048200  | 4        | 136918253 | 0.00979 |
| rs11730105  | 4        | 136929875 | 0.00191 |
| rs12510799  | 4        | 136934225 | 0.01593 |
| rs1870567   | 4        | 137887076 | 0.01393 |
| rs17619365  | 4        | 137954379 | 0.00580 |
| rs10519401  | 4        | 137998350 | 0.01171 |
| SNP            | Chromosome | Position   | Allele | P-value |
|----------------|------------|------------|--------|---------|
| rs1598567      | 4          | 138207018  | T      | 0.00956 |
| rs7698992      | 4          | 138586502  | G      | 0.00426 |
| rs12648234     | 4          | 140347897  | T      | 0.01505 |
| rs17050884     | 4          | 140861707  | G      | 0.01625 |
| rs6835548      | 4          | 140863594  | T      | 0.00736 |
| rs4863683      | 4          | 140895835  | C      | 0.01219 |
| rs6818154      | 4          | 140907901  | T      | 0.00098 |
| rs795985       | 4          | 141009888  | T      | 0.00436 |
| rs769686       | 4          | 141069202  | T      | 0.00090 |
| rs17313183     | 4          | 141107288  | T      | 0.01000 |
| rs11100483     | 4          | 141241767  | T      | 0.00464 |
| rs2036947      | 4          | 141475312  | A      | 0.01665 |
| rs96116        | 4          | 141484584  | C      | 0.01662 |
| rs4956293      | 4          | 141509306  | C      | 0.01374 |
| rs358315       | 4          | 141524043  | A      | 0.01150 |
| rs358317       | 4          | 141524729  | A      | 0.00388 |
| rs358332       | 4          | 141534172  | A      | 0.00219 |
| rs7698088      | 4          | 141771058  | T      | 0.00834 |
| rs11725890     | 4          | 141912965  | T      | 0.01550 |
| rs6817432      | 4          | 141942954  | C      | 0.00399 |
| rs970509       | 4          | 142897271  | G      | 0.01263 |
| rs10033884     | 4          | 142898776  | G      | 0.00796 |
| rs4254850      | 4          | 142907840  | A      | 0.01411 |
| rs10011008     | 4          | 143067127  | C      | 0.00731 |
| rs2663877      | 4          | 143070590  | A      | 0.01443 |
| rs1580840      | 4          | 143146381  | C      | 0.00177 |
| rs2645799      | 4          | 143193708  | C      | 0.00139 |
| rs2667099      | 4          | 143195291  | C      | 0.01225 |
| rs1353603      | 4          | 143222465  | C      | 0.01070 |
| rs2627829      | 4          | 143334179  | G      | 0.01104 |
| rs6835296      | 4          | 143674737  | T      | 0.01042 |
| rs5016160      | 4          | 144878908  | G      | 0.01222 |
| rs12510585     | 4          | 145412189  | G      | 0.01309 |
| rs11100847     | 4          | 145441160  | G      | 0.00918 |
| rs6537278      | 4          | 145477389  | C      | 0.00875 |
| rs6537302      | 4          | 145807566  | A      | 0.01047 |
| rs17020919     | 4          | 147178052  | T      | 0.00663 |
| rs891382       | 4          | 147371790  | C      | 0.00171 |
| rs41398848     | 4          | 147662987  | A      | 0.01351 |
| rs17021632     | 4          | 147752642  | G      | 0.00872 |
| rs17021660     | 4          | 147762864  | C      | 0.01044 |
| rs17021984     | 4          | 147959961  | G      | 0.01540 |
| rs12503342     | 4          | 148056414  | A      | 0.01279 |
| rs4399964      | 4          | 148303755  | T      | 0.00249 |
| rsID          | MAF | Chromosome | Position | Allele | P-value |
|--------------|-----|------------|----------|--------|---------|
| rs1429117    |     | 4          | 148560383 | G      | 0.00818 |
| rs17023259   |     | 4          | 148581870 | A      | 0.00686 |
| rs10519914   |     | 4          | 148897061 | T      | 0.01584 |
| rs12513192   |     | 4          | 149038027 | C      | 0.00159 |
| rs17024456   |     | 4          | 149319702 | G      | 0.00881 |
| rs3846307    |     | 4          | 149358086 | C      | 0.00646 |
| rs2461796    |     | 4          | 149909433 | T      | 0.00494 |
| rs10021639   |     | 4          | 150054931 | C      | 0.01632 |
| rs1438765    |     | 4          | 150349311 | C      | 0.00668 |
| rs1553427    |     | 4          | 150652365 | G      | 0.01039 |
| rs2897464    |     | 4          | 153248310 | G      | 0.00487 |
| rs4586908    |     | 4          | 153313090 | G      | 0.01422 |
| rs6839665    |     | 4          | 153844477 | C      | 0.00271 |
| rs1516689    |     | 4          | 154239518 | A      | 0.00494 |
| rs10009522   |     | 4          | 154382844 | C      | 0.00542 |
| rs17276464   |     | 4          | 153248310 | G      | 0.00487 |
| rs6826142    |     | 4          | 157029976 | A      | 0.00635 |
| rs7672387    |     | 4          | 157771848 | C      | 0.00752 |
| rs7682779    |     | 4          | 158739512 | T      | 0.00413 |
| rs11728753   |     | 4          | 159401857 | C      | 0.01467 |
| rs2291007    |     | 4          | 160047778 | T      | 0.01359 |
| rs9988057    |     | 4          | 160054590 | C      | 0.01075 |
| rs2707671    |     | 4          | 160634843 | T      | 0.01054 |
| rs998886     |     | 4          | 160714504 | G      | 0.01600 |
| rs6835919    |     | 4          | 161525531 | C      | 0.01508 |
| rs34082346   |     | 4          | 161529034 | T      | 0.01369 |
| rs1898866 | 4 | 161529827 | G | 0.01335 |
| rs7677076 | 4 | 161530598 | T | 0.00216 |
| rs8180366 | 4 | 161935753 | C | 0.00335 |
| rs13128164 | 4 | 161937609 | G | 0.00820 |
| rs6838547 | 4 | 162014886 | T | 0.00746 |
| rs2068177 | 4 | 162151909 | A | 0.01148 |
| rs17375482 | 4 | 162231847 | A | 0.01052 |
| rs13128164 | 4 | 162937822 | A | 0.00160 |
| rs6838547 | 4 | 163001732 | G | 0.00703 |
| rs17538472 | 4 | 163257691 | G | 0.01237 |
| rs6812566 | 4 | 163445860 | C | 0.00822 |
| rs7675931 | 4 | 163454734 | C | 0.01247 |
| rs195891 | 4 | 163931875 | A | 0.01082 |
| rs45426 | 4 | 163113553 | C | 0.00169 |
| rs17538472 | 4 | 163257691 | G | 0.01237 |
| rs6812566 | 4 | 163445860 | C | 0.00822 |
| rs7675931 | 4 | 163454734 | C | 0.01247 |
| rs195891 | 4 | 163931875 | A | 0.01082 |
| rs4057780 | 4 | 164495979 | C | 0.00892 |
| rs17610283 | 4 | 164559816 | G | 0.00686 |
| rs10213166 | 4 | 164740516 | T | 0.00703 |
| rs12500778 | 4 | 164939833 | G | 0.00058 |
| rs6814461 | 4 | 165835450 | T | 0.00352 |
| rs12500546 | 4 | 166018436 | G | 0.00326 |
| rs4690796 | 4 | 166092275 | G | 0.00370 |
| rs1438111 | 4 | 166504639 | A | 0.01392 |
| rs7663386 | 4 | 166585980 | G | 0.00855 |
| rs17504041 | 4 | 166809379 | A | 0.00522 |
| rs17047207 | 4 | 167176102 | T | 0.00682 |
| rs6837937 | 4 | 167318791 | G | 0.01285 |
| rs17047336 | 4 | 167319366 | A | 0.01041 |
| rs7664643 | 4 | 168181330 | C | 0.00640 |
| rs6818745 | 4 | 168193181 | G | 0.00221 |
| rs12505330 | 4 | 168378522 | C | 0.01340 |
| rs922771 | 4 | 168722326 | T | 0.00877 |
| rs10517948 | 4 | 168761544 | T | 0.01357 |
| rs13129385 | 4 | 168821802 | T | 0.00221 |
| rs6854037 | 4 | 169987574 | G | 0.00214 |
| rs12507746 | 4 | 170916769 | G | 4.54700 |
| rs2955270 | 4 | 171085739 | A | 0.00262 |
| rs531210 | 4 | 171319526 | T | 0.00227 |
| rs1522600 | 4 | 171386286 | T | 0.01105 |
| rs17055545 | 4 | 171439939 | C | 0.00414 |
| rs4692825 | 4 | 171529500 | A | 0.01396 |
| rsID      | Position   | Allele1 | Allele2 | p-value |
|-----------|------------|---------|---------|---------|
| rs1157749 | 4 171677589 | G       |         | 0.01350 |
| rs435979  | 4 171763310 | G       |         | 0.01520 |
| rs9994424 | 4 171821698 | T       |         | 0.01449 |
| rs5009480 | 4 171823438 | A       |         | 0.00839 |
| rs10029768| 4 171871392 | G       |         | 0.00349 |
| rs17056458| 4 172269070 | C       |         | 0.01268 |
| rs4692870 | 4 172384937 | C       |         | 0.00069 |
| rs1565468 | 4 172863064 | T       |         | 0.00286 |
| rs9994424 | 4 173032406 | C       |         | 0.00366 |
| rs5009480 | 4 173241159 | A       |         | 0.01232 |
| rs17058017| 4 173241632 | C       |         | 0.00938 |
| rs41516045| 4 173366322 | T       |         | 0.00291 |
| rs6841156 | 4 173889675 | T       |         | 0.00092 |
| rs13134194| 4 173922367 | C       |         | 10.35100|
| rs6819460 | 4 173933544 | G       |         | 0.01505 |
| rs17325472| 4 174559706 | C       |         | 0.00191 |
| rs13148735| 4 174559803 | C       |         | 0.00914 |
| rs10520270| 4 175283560 | T       |         | 0.00613 |
| rs6836227 | 4 175306818 | T       |         | 0.00997 |
| rs10520286| 4 175712320 | T       |         | 0.00120 |
| rs1994701 | 4 176027903 | G       |         | 0.01048 |
| rs2127292 | 4 176166505 | T       |         | 0.00026 |
| rs330504  | 4 176317657 | G       |         | 0.00839 |
| rs12505348| 4 176429349 | T       |         | 0.00121 |
| rs17061762| 4 176815078 | A       |         | 0.01312 |
| rs6829241 | 4 177267544 | C       |         | 0.01404 |
| rs6832177 | 4 177350830 | A       |         | 0.00773 |
| rs4589981 | 4 177402176 | A       |         | 0.00419 |
| rs4690671 | 4 177402550 | T       |         | 0.00127 |
| rs13115859| 4 177461443 | G       |         | 0.00465 |
| rs4077385 | 4 177465508 | T       |         | 0.00595 |
| rs12331837| 4 177465879 | T       |         | 0.01087 |
| rs11133144| 4 177466713 | C       |         | 0.00094 |
| rs7693835 | 4 178527758 | C       |         | 0.00674 |
| rs13135116| 4 178904409 | C       |         | 0.01467 |
| rs2666063 | 4 179533035 | T       |         | 0.00046 |
| rs364687  | 4 179903060 | G       |         | 0.01565 |
| rs9312239 | 4 180199353 | A       |         | 0.01421 |
| rs28675693| 4 180261121 | T       |         | 0.01458 |
| rs10016804| 4 180286027 | G       |         | 0.01347 |
| rs1457394 | 4 180407643 | G       |         | 0.01407 |
| rs1457392 | 4 180407774 | T       |         | 0.00868 |
| rs7658508 | 4 180584359 | A       |         | 0.01260 |
| SNP      | Chromosome | Position   | Allele | Minor Allele Frequency |
|----------|------------|------------|--------|------------------------|
| rs2584433| 4          | 180753885  | A      | 0.0077                 |
| rs6552375| 4          | 180754445  | A      | 0.0111                 |
| rs13125519| 4         | 180915220 | T      | 0.0104                 |
| rs10866234| 4         | 181468074 | A      | 0.0064                 |
| rs10029127| 4         | 181581933 | T      | 0.0024                 |
| rs1718678| 4          | 181582068  | C      | 0.0068                 |
| rs17070060| 4         | 181893560 | A      | 0.0146                 |
| rs12639725| 4         | 182605472 | A      | 0.0026                 |
| rs13125519| 4         | 182702239 | C      | 0.0066                 |
| rs10866234| 4         | 182766563 | T      | 0.0131                 |
| rs4453971 | 4          | 182929392  | G      | 0.0095                 |
| rs17072756| 4         | 183232158 | A      | 0.0132                 |
| rs13148469| 4         | 183509306 | G      | 0.0114                 |
| rs6552560 | 4          | 183529623  | T      | 0.0045                 |
| rs11945229| 4         | 183614918 | G      | 0.0109                 |
| rs3924788 | 4          | 18404359  | T      | 0.0149                 |
| rs1377943 | 4          | 184166575  | G      | 0.0126                 |
| rs1467097 | 4          | 184539366  | G      | 0.0018                 |
| rs6816216 | 4          | 184613845  | A      | 0.0017                 |
| rs11723316| 4         | 184652332 | C      | 0.0055                 |
| rs13132455| 4         | 184896441 | A      | 0.0160                 |
| rs987465  | 4          | 184951955  | G      | 0.0047                 |
| rs17090674| 4         | 185156464 | A      | 0.0105                 |
| rs1863316 | 4          | 185627449  | T      | 0.0079                 |
| rs2171838 | 4          | 185904398 | G      | 0.0011                 |
| rs7672399 | 4          | 186046913  | A      | 0.0077                 |
| rs6552838 | 4          | 186047130  | C      | 0.0000                 |
| rs4466084 | 4          | 186130980  | T      | 0.0104                 |
| rs4862528 | 4          | 186596985  | C      | 0.0120                 |
| rs2306707 | 4          | 186796103  | A      | 0.0052                 |
| rs10028428| 4         | 186936578 | A      | 0.0103                 |
| rs4861696 | 4          | 187172829 | A      | 0.0102                 |
| rs6842047 | 4          | 187370570  | A      | 0.0006                 |
| rs6845924 | 4          | 187629793  | G      | 0.0096                 |
| rs397321  | 4          | 188052641  | A      | 0.0101                 |
| rs6553029 | 4          | 188113464  | G      | 0.0116                 |
| rs6821507 | 4          | 188113823  | G      | 0.0099                 |
| rs766772  | 4          | 188314010  | A      | 0.0067                 |
| rs427462  | 4          | 189539641  | C      | 0.0081                 |
| rs13107630| 4          | 189602503  | T      | 0.0092                 |
| rs1395612 | 4          | 189670284  | C      | 0.0117                 |
| rs10018432| 4         | 189674080 | C      | 0.0090                 |
| rs6833298 | 4          | 189985301  | C      | 0.0019                 |
| rs6553249 | 4          | 190065331  | G      | 0.0030                 |
| SNP          | Chromosome | Position   | Allele | P-value |
|--------------|------------|------------|--------|---------|
| rs2132668    | 4          | 190218321  | T      | 0.00315 |
| rs7684484    | 4          | 190362801  | C      | 0.00656 |
| rs7684496    | 4          | 190362818  | G      | 0.01360 |
| rs2739542    | 4          | 190963859  | C      | 0.01616 |
| rs17563576   | 5          | 613476     | G      | 0.01291 |
| rs12656150   | 5          | 875123     | A      | 0.00057 |
| rs3747739    | 5          | 936065     | G      | 0.00045 |
| rs7684496    | 4          | 190362818  | G      | 0.01360 |
| rs17673214   | 5          | 2961851    | G      | 0.01593 |
| rs13167386   | 5          | 3102987    | T      | 0.00194 |
| rs16870933   | 5          | 3103455    | T      | 0.01330 |
| rs10041553   | 5          | 3103780    | T      | 0.01094 |
| rs1971938    | 5          | 3129318    | A      | 0.00284 |
| rs32723      | 5          | 3504906    | G      | 0.00729 |
| rs3938039    | 5          | 4229833    | G      | 0.01363 |
| rs1501737    | 5          | 4360636    | A      | 0.01627 |
| rs261189     | 5          | 4378585    | G      | 0.01645 |
| rs261187     | 5          | 4378739    | T      | 0.01617 |
| rs261182     | 5          | 4379793    | A      | 0.01119 |
| rs261181     | 5          | 4380302    | T      | 0.01180 |
| rs261179     | 5          | 4380853    | C      | 0.01633 |
| rs261163     | 5          | 4394950    | A      | 0.01418 |
| rs261150     | 5          | 4405277    | T      | 0.01569 |
| rs261130     | 5          | 4429717    | G      | 0.00528 |
| rs2619802    | 5          | 5145343    | C      | 0.01054 |
| rs987587     | 5          | 5145444    | C      | 0.01313 |
| rs12658487   | 5          | 5274568    | T      | 0.00158 |
| rs890770     | 5          | 5319740    | T      | 0.00702 |
| rs1863943    | 5          | 5450165    | T      | 9.66600 |
| rs4702266    | 5          | 5450628    | A      | 0.00442 |
| rs252614     | 5          | 5623992    | G      | 0.00500 |
| rs2399610    | 5          | 5790796    | G      | 0.01554 |
| rs7443606    | 5          | 5790979    | T      | 0.00251 |
| rs441356     | 5          | 5803573    | T      | 0.00696 |
| rs35740      | 5          | 5879215    | A      | 0.00061 |
| rs6890159    | 5          | 5959041    | A      | 0.00696 |
| rs1150461    | 5          | 5964381    | A      | 0.01663 |
| rs1150462    | 5          | 5964422    | C      | 0.01667 |
| rs160126     | 5          | 6009806    | C      | 0.00872 |
| SNP             | Chromosome | Position   | Allele | P-value   |
|----------------|------------|------------|--------|-----------|
| rs1379305      | 5          | 6342200    | A      | 0.00914   |
| rs12520404     | 5          | 6376989    | T      | 0.01165   |
| rs16877663     | 5          | 6661629    | G      | 0.00194   |
| rs4701757      | 5          | 6992018    | A      | 0.00328   |
| rs4298226      | 5          | 7255635    | G      | 0.00105   |
| rs13186772     | 5          | 7269226    | T      | 0.00314   |
| rs4302553      | 5          | 7272495    | G      | 0.01349   |
| rs10068942     | 5          | 7579847    | G      | 0.00423   |
| rs4701786      | 5          | 7585455    | C      | 0.01646   |
| rs17827533     | 5          | 7594566    | A      | 0.00161   |
| rs1018956      | 5          | 7970137    | T      | 0.01640   |
| rs466169       | 5          | 8048509    | T      | 0.00024   |
| rs4461605      | 5          | 8492356    | C      | 0.00625   |
| rs2962720      | 5          | 9062675    | T      | 0.00711   |
| rs17196572     | 5          | 9351117    | C      | 0.00593   |
| rs1018956      | 5          | 9363216    | C      | 0.01607   |
| rs3777324      | 5          | 9372587    | C      | 0.01017   |
| rs2696372      | 5          | 9406888    | T      | 0.00094   |
| rs1205719      | 5          | 9409053    | G      | 0.00501   |
| rs326187       | 5          | 7890843    | T      | 0.01597   |
| rs17196572     | 5          | 7890843    | T      | 0.01597   |
| rs17196572     | 5          | 7970137    | T      | 0.01640   |
| rs466169       | 5          | 8048509    | T      | 0.00024   |
| rs4461605      | 5          | 8492356    | C      | 0.00625   |
| rs2962720      | 5          | 9062675    | T      | 0.00711   |
| rs17196572     | 5          | 9351117    | C      | 0.00593   |
| rs1018956      | 5          | 9363216    | C      | 0.01607   |
| rs3777324      | 5          | 9372587    | C      | 0.01017   |
| rs2696372      | 5          | 9406888    | T      | 0.00094   |
| rs1205719      | 5          | 9409053    | G      | 0.00501   |
| rs326187       | 5          | 7890843    | T      | 0.01597   |
| rs17196572     | 5          | 7890843    | T      | 0.01597   |
| rs17196572     | 5          | 7970137    | T      | 0.01640   |
| rs466169       | 5          | 8048509    | T      | 0.00024   |
| rs4461605      | 5          | 8492356    | C      | 0.00625   |
| rs2962720      | 5          | 9062675    | T      | 0.00711   |
| rs17196572     | 5          | 9351117    | C      | 0.00593   |
| rs1018956      | 5          | 9363216    | C      | 0.01607   |
| rs3777324      | 5          | 9372587    | C      | 0.01017   |
| rs2696372      | 5          | 9406888    | T      | 0.00094   |
| rs1205719      | 5          | 9409053    | G      | 0.00501   |
| rs326187       | 5          | 7890843    | T      | 0.01597   |
| rs17196572     | 5          | 7890843    | T      | 0.01597   |
| rs17196572     | 5          | 7970137    | T      | 0.01640   |
| rs466169       | 5          | 8048509    | T      | 0.00024   |
| rs4461605      | 5          | 8492356    | C      | 0.00625   |
| rs2962720      | 5          | 9062675    | T      | 0.00711   |
| rs17196572     | 5          | 9351117    | C      | 0.00593   |
| rs1018956      | 5          | 9363216    | C      | 0.01607   |
| rs3777324      | 5          | 9372587    | C      | 0.01017   |
| SNP      | Chromosome | Base Position | Allele | P-Value |
|----------|------------|---------------|--------|---------|
| rs835079 | 5          | 15033517      | A      | 0.01402 |
| rs16903769 | 5        | 15040953      | T      | 0.01486 |
| rs6881461 | 5          | 15073458      | A      | 0.01108 |
| rs301078  | 5          | 15193902      | T      | 0.00673 |
| rs29965   | 5          | 16427042      | C      | 0.00147 |
| rs154791  | 5          | 16502037      | A      | 0.01138 |
| rs334470  | 5          | 16565364      | A      | 0.00107 |
| rs1240649 | 5          | 16612581      | G      | 0.00392 |
| rs149447  | 5          | 16648199      | T      | 0.00949 |
| rs181940  | 5          | 16755375      | C      | 0.00266 |
| rs253313  | 5          | 16924809      | T      | 0.01138 |
| rs38986   | 5          | 16967516      | T      | 0.01528 |
| rs10045328 | 5        | 17022392     | A      | 0.01437 |
| rs297200  | 5          | 17190115      | G      | 0.01616 |
| rs2731796 | 5          | 17206618      | C      | 0.01265 |
| rs6894826 | 5          | 17554965      | T      | 0.00251 |
| rs6450583 | 5          | 17713466      | G      | 0.01369 |
| rs6867384 | 5          | 18057727      | G      | 0.01263 |
| rs583360  | 5          | 18192076      | A      | 0.00460 |
| rs314021  | 5          | 18355536      | C      | 0.00580 |
| rs16886698 | 5        | 18755054     | T      | 0.01239 |
| rs4398638 | 5          | 19016954      | C      | 0.01135 |
| rs10940990 | 5        | 19026601    | A      | 0.01634 |
| rs16885921 | 5        | 19523315   | C      | 0.00922 |
| rs6869352 | 5          | 19916375      | A      | 0.01234 |
| rs4866161 | 5          | 19938472      | G      | 0.01285 |
| rs11960225 | 5         | 19947442    | T      | 0.00923 |
| rs1911859 | 5          | 20052952      | A      | 0.01041 |
| rs1702407 | 5          | 20570658      | C      | 0.00847 |
| rs2115342 | 5          | 20626831      | T      | 0.01246 |
| rs2388648 | 5          | 20950456      | T      | 0.00971 |
| rs2484194 | 5          | 21174112      | T      | 0.00490 |
| rs7445981 | 5          | 22071307      | C      | 0.01138 |
| rs4701563 | 5          | 22072008      | T      | 0.01102 |
| rs16893106 | 5         | 24123313    | G      | 0.00994 |
| rs1428371 | 5          | 24472348      | T      | 0.01045 |
| rs6452255 | 5          | 25364578      | G      | 0.00311 |
| rs168843  | 5          | 25775740      | A      | 0.00634 |
| rs1585798 | 5          | 25784003      | G      | 0.00669 |
| rs1678935 | 5          | 25786763      | T      | 0.01119 |
| rs10942147 | 5        | 25946686    | T      | 0.00573 |
| rs6862624 | 5          | 25947094      | C      | 0.00972 |
| rs11954820 | 5         | 26011809   | A      | 0.00334 |
| rs11954990 | 5         | 26075023   | G      | 0.01032 |
| rs          | chrm | pos    | allele | p_value |
|------------|------|--------|--------|---------|
| rs11948589 | 5    | 27580527 A | 0.00901 |
| rs4585457  | 5    | 27735627 A | 0.01241 |
| rs10072478 | 5    | 28472749 T | 0.01543 |
| rs13355546 | 5    | 28500650 G | 0.00242 |
| rs11952771 | 5    | 28714271 C | 0.01249 |
| rs2059188  | 5    | 28721624 A | 0.00965 |
| rs2618415  | 5    | 29077660 C | 0.00788 |
| rs13355546 | 5    | 28500650 G | 0.00242 |
| rs11952771 | 5    | 28714271 C | 0.01249 |
| rs4620035  | 5    | 29296330 C | 0.00961 |
| rs9784631  | 5    | 29361320 A | 0.00349 |
| rs16899249 | 5    | 29690997 A | 0.00041 |
| rs1428323  | 5    | 29947791 A | 0.01011 |
| rs41433547 | 5    | 30675417 G | 0.01018 |
| rs10520976 | 5    | 30893519 G | 0.00114 |
| rs497441   | 5    | 31496174 C | 0.01653 |
| rs17413207 | 5    | 31716798 A | 0.00159 |
| rs16901543 | 5    | 31804937 A | 0.00847 |
| rs12697260 | 5    | 31836366 T | 0.00909 |
| rs16889543 | 5    | 32295529 A | 0.00156 |
| rs696836   | 5    | 32770165 C | 0.00953 |
| rs6893739  | 5    | 33634555 A | 0.00599 |
| rs4409096  | 5    | 33753637 C | 0.01292 |
| rs16891720 | 5    | 33824071 G | 0.01157 |
| rs41517251 | 5    | 34091805 C | 0.01407 |
| rs4703378  | 5    | 34565370 G | 0.00407 |
| rs10521018 | 5    | 34889768 G | 0.01149 |
| rs4703503  | 5    | 35198519 T | 0.00654 |
| rs32784    | 5    | 35418110 A | 0.01021 |
| rs6895801  | 5    | 35799673 A | 0.00673 |
| rs10044838 | 5    | 35900347 A | 0.00212 |
| rs10491434 | 5    | 35913671 G | 0.01130 |
| rs17285269 | 5    | 36438551 A | 0.00173 |
| rs2731888  | 5    | 36559672 T | 0.01404 |
| rs7719968  | 5    | 37811015 G | 0.01041 |
| rs1363927  | 5    | 37897338 T | 0.00571 |
| rs6874732  | 5    | 38141194 C | 0.00580 |
| rs10044233 | 5    | 38194423 C | 0.00327 |
| rs11748742 | 5    | 38703445 C | 0.00356 |
| rs16867716 | 5    | 38803308 T | 0.01048 |
| rs700242   | 5    | 39420645 T | 0.00135 |
| rs2939316  | 5    | 39585791 C | 0.01072 |
| rs3947262  | 5    | 39616920 C | 0.00857 |
| rs538752 | 5 | 39941872 | C | 0.00048 |
|---------|---|----------|---|---------|
| rs1159011 | 5 | 40174561 | A | 0.00905 |
| rs1366020 | 5 | 40174838 | T | 0.00834 |
| rs1505992 | 5 | 40534334 | T | 0.01540 |
| rs1553576 | 5 | 40545412 | A | 0.01430 |
| rs1553577 | 5 | 40545764 | T | 0.01084 |
| rs1366020 | 5 | 40545764 | T | 0.00834 |
| rs1505992 | 5 | 40551279 | G | 0.00913 |
| rs6896604 | 5 | 40551774 | T | 0.01446 |
| rs6866402 | 5 | 40553088 | A | 0.01591 |
| rs4957313 | 5 | 40553482 | G | 0.00742 |
| rs10941516 | 5 | 40557969 | A | 0.01631 |
| rs7718129 | 5 | 40564436 | C | 0.00084 |
| rs11750156 | 5 | 40597115 | G | 0.00478 |
| rs10055860 | 5 | 40605710 | C | 0.01357 |
| rs10055946 | 5 | 40605832 | G | 0.01492 |
| rs122433 | 5 | 40614679 | T | 0.00371 |
| rs2135330 | 5 | 40637966 | A | 0.00134 |
| rs10473203 | 5 | 40642051 | A | 0.00954 |
| rs13362106 | 5 | 41046454 | A | 0.01028 |
| rs11750584 | 5 | 41129616 | C | 0.01107 |
| rs2194208 | 5 | 41324009 | A | 0.00689 |
| rs318070 | 5 | 41480555 | C | 0.01028 |
| rs35712799 | 5 | 41485655 | C | 0.00104 |
| rs7733683 | 5 | 41646914 | G | 0.01226 |
| rs11739609 | 5 | 41656596 | G | 0.00927 |
| rs3851448 | 5 | 41661649 | T | 0.01236 |
| rs309923 | 5 | 43004886 | T | 0.00791 |
| rs186322 | 5 | 43020395 | A | 0.00259 |
| rs12523231 | 5 | 45264593 | A | 0.00081 |
| rs12514062 | 5 | 51854141 | C | 0.01168 |
| rs7723161 | 5 | 51860390 | A | 0.00173 |
| rs830867 | 5 | 51952667 | C | 0.00824 |
| rs117931 | 5 | 52489623 | A | 0.01659 |
| rs2112876 | 5 | 52514472 | G | 0.01259 |
| rs254481 | 5 | 52531439 | G | 0.00199 |
| rs37809 | 5 | 52609049 | C | 0.00468 |
| rs37787 | 5 | 52677813 | C | 0.00184 |
| rs11950121 | 5 | 53214714 | C | 0.00946 |
| rs697112 | 5 | 53296436 | A | 0.01196 |
| rs278065 | 5 | 53484158 | A | 0.00130 |
| rs4141522 | 5 | 53656359 | A | 0.00032 |
| rs968813 | 5 | 53690381 | C | 0.00075 |
| rs12515791 | 5 | 53708606 | G | 0.01476 |
| rs6414829 | 5 | 54003879 | T | 0.00349 |
| SNP          | Chrm | Pos   | Ref | Alt | P-value |
|--------------|------|-------|-----|-----|---------|
| rs6880771    | 5    | 54093808 | C   |     | 0.00497 |
| rs10045790   | 5    | 54126295 | T   |     | 0.00723 |
| rs4380600    | 5    | 54129781 | C   |     | 0.01198 |
| rs1023671    | 5    | 54300768 | T   |     | 7.65100 |
| rs17346478   | 5    | 54301303 | T   |     | 0.01106 |
| rs3822313    | 5    | 54310631 | T   |     | 0.00349 |
| rs12513672   | 5    | 54862165 | G   |     | 0.00063 |
| rs10062991   | 5    | 55205610 | T   |     | 0.01183 |
| rs1997522    | 5    | 55687334 | T   |     | 0.01332 |
| rs16885269   | 5    | 55689646 | G   |     | 0.00356 |
| rs1645483    | 5    | 55692632 | C   |     | 0.01195 |
| rs190820     | 5    | 55760461 | T   |     | 0.00375 |
| rs30361      | 5    | 55867652 | C   |     | 0.00605 |
| rs831793     | 5    | 56385936 | G   |     | 0.00242 |
| rs865553     | 5    | 56386202 | C   |     | 0.01446 |
| rs1002533    | 5    | 56443201 | C   |     | 0.01442 |
| rs4699908    | 5    | 56950018 | A   |     | 0.00257 |
| rs2968223    | 5    | 56965947 | A   |     | 0.00052 |
| rs1835873    | 5    | 57170807 | T   |     | 0.01037 |
| rs4541617    | 5    | 57251185 | C   |     | 0.00408 |
| rs2910601    | 5    | 57519118 | A   |     | 0.00221 |
| rs16888672   | 5    | 58162338 | C   |     | 0.00192 |
| rs1498599    | 5    | 58390789 | G   |     | 0.01076 |
| rs6877508    | 5    | 58607758 | C   |     | 0.00006 |
| rs16889904   | 5    | 58818597 | G   |     | 0.01003 |
| rs920190     | 5    | 58983746 | A   |     | 0.00814 |
| rs10042020   | 5    | 59199583 | G   |     | 0.01272 |
| rs1003219    | 5    | 59200750 | T   |     | 0.00922 |
| rs10939851   | 5    | 59877118 | T   |     | 0.00624 |
| rs152341     | 5    | 59881720 | T   |     | 0.00996 |
| rs6449503    | 5    | 60131029 | A   |     | 0.01177 |
| rs290505     | 5    | 60332313 | T   |     | 0.00134 |
| rs11954384   | 5    | 60547184 | C   |     | 0.00058 |
| rs581318     | 5    | 60551551 | A   |     | 0.01476 |
| rs4582229    | 5    | 60884502 | A   |     | 0.01279 |
| rs13177031   | 5    | 60889280 | T   |     | 0.01253 |
| rs153385     | 5    | 60939403 | A   |     | 0.00152 |
| rs971965     | 5    | 61597678 | T   |     | 0.00691 |
| rs13189446   | 5    | 61608746 | G   |     | 0.01461 |
| rs16890651   | 5    | 61665296 | G   |     | 0.00679 |
| rs40290      | 5    | 61852899 | A   |     | 0.01079 |
| rs2591786    | 5    | 62105308 | A   |     | 0.00624 |
| rs7715472    | 5    | 62109454 | C   |     | 0.00646 |
| SNP        | Position | Reference | Minor Allele | P-value |
|------------|----------|-----------|--------------|---------|
| rs2642781  | 62110935 | C         | C            | 0.00672 |
| rs16892078 | 62967102 | C         | G            | 0.00346 |
| rs17484704 | 63257177 | C         | C            | 0.01217 |
| rs168558   | 63426154 | C         | C            | 0.000672 |
| rs1389864  | 63532936 | G         | G            | 0.00459 |
| rs17484704 | 63639566 | G         | G            | 0.00383 |
| rs168558   | 636426154| C         | C            | 3.06000 |
| rs1389864  | 63929058 | G         | G            | 0.01430 |
| rs2968199  | 64305176 | T         | T            | 0.00463 |
| rs4432837  | 64676668 | C         | C            | 0.01529 |
| rs2640717  | 64676668 | C         | C            | 0.01529 |
| rs9291837  | 64743875 | C         | C            | 6.06600 |
| rs2047064  | 64769683 | C         | C            | 0.01437 |
| rs10055584 | 65130878 | C         | C            | 0.01648 |
| rs10056426 | 65239180 | A         | A            | 0.00579 |
| rs16894638 | 65304426 | C         | C            | 0.00428 |
| rs7732890  | 65577170 | A         | A            | 0.01290 |
| rs2801646  | 65676212 | A         | A            | 0.00022 |
| rs7700850  | 65930218 | A         | A            | 0.00103 |
| rs33696    | 66114070 | G         | G            | 0.01548 |
| rs1363933  | 66279477 | A         | A            | 0.00082 |
| rs2042945  | 66506805 | G         | G            | 0.01356 |
| rs2230524  | 66514485 | G         | G            | 0.01134 |
| rs5744489  | 66522922 | T         | T            | 0.01259 |
| rs6893676  | 67589527 | C         | C            | 0.01332 |
| rs2302976  | 67605358 | G         | G            | 0.01369 |
| rs695166   | 67640384 | C         | C            | 0.00755 |
| rs440292   | 67645164 | C         | C            | 0.01039 |
| rs16897721 | 67685367 | C         | C            | 0.00074 |
| rs17324835 | 67959214 | A         | A            | 0.00265 |
| rs2607374  | 67995681 | C         | C            | 0.00486 |
| rs7721127  | 68062860 | T         | T            | 0.00639 |
| rs6891897  | 68078239 | A         | A            | 0.00956 |
| rs4251819  | 68100200 | A         | A            | 0.00363 |
| rs1472906  | 68166377 | G         | G            | 0.01209 |
| rs41393950 | 70994601 | A         | A            | 0.00580 |
| rs1217778  | 71402652 | T         | T            | 0.01449 |
| rs1217782  | 71402819 | G         | G            | 0.01369 |
| rs4703855  | 71729655 | C         | C            | 0.00163 |
| rs4703908  | 71802603 | G         | G            | 0.01474 |
| rs406813   | 71873362 | G         | G            | 0.00158 |
| rs10061469 | 72553904 | C         | C            | 0.00996 |
| rs343112   | 72916455 | A         | A            | 0.01368 |
| rs17552447 | 73037135 | G         | G            | 0.00570 |
| SNP          | Chr | Position     | Ref | Alt | Minor Allele Frequency |
|--------------|-----|--------------|-----|-----|------------------------|
| rs716707     | 5   | 73133625     | G   |     | 0.00352                |
| rs1018119    | 5   | 74922140     | G   |     | 0.00998                |
| rs34354      | 5   | 75089238     | G   |     | 0.01436                |
| rs4704267    | 5   | 75259821     | G   |     | 0.01193                |
| rs11741865   | 5   | 75532899     | A   |     | 0.00879                |
| rs246807     | 5   | 75677786     | T   |     | 0.01021                |
| rs17748061   | 5   | 75867612     | T   |     | 0.00682                |
| rs406217     | 5   | 75962783     | G   |     | 0.00187                |
| rs7721799    | 5   | 76286134     | G   |     | 0.00117                |
| rs34354      | 5   | 76359244     | T   |     | 0.00425                |
| rs4704267    | 5   | 76753339     | T   |     | 0.01486                |
| rs1018119    | 5   | 76765294     | C   |     | 0.00259                |
| rs3797642    | 5   | 76784682     | T   |     | 0.00808                |
| rs254378     | 5   | 77093252     | T   |     | 0.00215                |
| rs254411     | 5   | 77115613     | A   |     | 0.00724                |
| rs2028596    | 5   | 77206506     | G   |     | 0.01437                |
| rs10447178   | 5   | 77224047     | G   |     | 0.00866                |
| rs10068036   | 5   | 77612443     | C   |     | 0.00187                |
| rs1560198    | 5   | 77804349     | G   |     | 0.00975                |
| rs10052968   | 5   | 77939018     | G   |     | 0.00672                |
| rs10514108   | 5   | 78141103     | T   |     | 0.01648                |
| rs12054837   | 5   | 78142127     | C   |     | 0.00699                |
| rs12153089   | 5   | 78303950     | T   |     | 0.01625                |
| rs6453423    | 5   | 78304645     | T   |     | 0.00116                |
| rs6897944    | 5   | 78306219     | A   | 16.14800   |
| rs2909854    | 5   | 78465469     | G   |     | 0.00927                |
| rs16876720   | 5   | 78696992     | C   |     | 0.01000                |
| rs2404150    | 5   | 78735782     | A   | 5.18600     |
| rs7709092    | 5   | 78749824     | A   |     | 0.00414                |
| rs264995     | 5   | 79199168     | C   |     | 0.00067                |
| rs16877612   | 5   | 79551044     | T   |     | 0.00188                |
| rs6151892    | 5   | 80154637     | A   |     | 0.01382                |
| rs34122      | 5   | 80473812     | A   |     | 0.01337                |
| rs4703516    | 5   | 80690722     | A   |     | 0.00197                |
| rs10474035   | 5   | 80962576     | A   |     | 0.00718                |
| rs401654     | 5   | 81104103     | A   |     | 0.00822                |
| rs6452435    | 5   | 81238737     | A   |     | 0.01496                |
| rs224963     | 5   | 81729650     | G   |     | 0.00262                |
| rs6876647    | 5   | 81956240     | G   |     | 0.00741                |
| rs9293317    | 5   | 82192914     | A   |     | 0.01223                |
| rs33596      | 5   | 82783992     | A   |     | 0.00709                |
| rs28296      | 5   | 82795773     | G   |     | 0.01077                |
| rs1193353    | 5   | 82866432     | A   |     | 0.00110                |
| rs309586     | 5   | 82893803     | A   |     | 0.01402                |
| SNP         | Chrm | Basepos | Ref | Alt | p   |
|------------|------|---------|-----|-----|-----|
| rs2301103  | 5    | 83466967| A   |     | 0.01312|
| rs10462409 | 5    | 83757549| C   |     | 0.00894|
| rs12515472 | 5    | 84234018| G   |     | 0.01091|
| rs7446072  | 5    | 84545996| G   |     | 0.00006|
| rs6452647  | 5    | 84576005| G   |     | 0.01026|
| rs2931116  | 5    | 84639708| C   |     | 0.01282|
| rs307311   | 5    | 84729376| A   |     | 0.01365|
| rs467359   | 5    | 84869510| C   |     | 0.00916|
| rs7446072  | 5    | 84545996| G   |     | 0.00006|
| rs2931116  | 5    | 84639708| C   |     | 0.01282|
| rs467359   | 5    | 84869510| C   |     | 0.00916|
| rs12515472 | 5    | 84234018| G   |     | 0.01091|
| rs7446072  | 5    | 84545996| G   |     | 0.00006|
| rs2931116  | 5    | 84639708| C   |     | 0.01282|
| rs467359   | 5    | 84869510| C   |     | 0.00916|
| rs12515472 | 5    | 84234018| G   |     | 0.01091|
| rs7446072  | 5    | 84545996| G   |     | 0.00006|
| rs2931116  | 5    | 84639708| C   |     | 0.01282|
| rs467359   | 5    | 84869510| C   |     | 0.00916|
| rs12515472 | 5    | 84234018| G   |     | 0.01091|
| rs7446072  | 5    | 84545996| G   |     | 0.00006|
| rs2931116  | 5    | 84639708| C   |     | 0.01282|
| rs467359   | 5    | 84869510| C   |     | 0.00916|
| rs12515472 | 5    | 84234018| G   |     | 0.01091|
| rs7446072  | 5    | 84545996| G   |     | 0.00006|
| rs2931116  | 5    | 84639708| C   |     | 0.01282|
| rs467359   | 5    | 84869510| C   |     | 0.00916|
| rs12515472 | 5    | 84234018| G   |     | 0.01091|
| rs7446072  | 5    | 84545996| G   |     | 0.00006|
| rs2931116  | 5    | 84639708| C   |     | 0.01282|
| rs467359   | 5    | 84869510| C   |     | 0.00916|
| rs12515472 | 5    | 84234018| G   |     | 0.01091|
| rs7446072  | 5    | 84545996| G   |     | 0.00006|
| rs2931116  | 5    | 84639708| C   |     | 0.01282|
| rs467359   | 5    | 84869510| C   |     | 0.00916|
| rs12515472 | 5    | 84234018| G   |     | 0.01091|
| rs7446072  | 5    | 84545996| G   |     | 0.00006|
| rs2931116  | 5    | 84639708| C   |     | 0.01282|
| rs467359   | 5    | 84869510| C   |     | 0.00916|
| rs12515472 | 5    | 84234018| G   |     | 0.01091|
| rs7446072  | 5    | 84545996| G   |     | 0.00006|
| rs2931116  | 5    | 84639708| C   |     | 0.01282|
| rs467359   | 5    | 84869510| C   |     | 0.00916|
| rs12515472 | 5    | 84234018| G   |     | 0.01091|
| rs7446072  | 5    | 84545996| G   |     | 0.00006|
| rs2931116  | 5    | 84639708| C   |     | 0.01282|
| rs467359   | 5    | 84869510| C   |     | 0.00916|
| rs12515472 | 5    | 84234018| G   |     | 0.01091|
| rs7446072  | 5    | 84545996| G   |     | 0.00006|
| rs2931116  | 5    | 84639708| C   |     | 0.01282|
| rs467359   | 5    | 84869510| C   |     | 0.00916|
| rs12515472 | 5    | 84234018| G   |     | 0.01091|
| rs7446072  | 5    | 84545996| G   |     | 0.00006|
| rs2931116  | 5    | 84639708| C   |     | 0.01282|
| rs467359   | 5    | 84869510| C   |     | 0.00916|
| SNP      | Chr | Allele 1 | Allele 2 | p-value |
|----------|-----|----------|----------|---------|
| rs9285014 | 5   | 93821888 | T        | 0.00808 |
| rs17084109| 5   | 94179269 | C        | 0.01043 |
| rs40590   | 5   | 94248164 | G        | 0.01192 |
| rs2731823 | 5   | 94756335 | T        | 0.00663 |
| rs3777190 | 5   | 95273728 | G        | 0.00836 |
| rs17473575| 5   | 95875079 | A        | 0.00748 |
| rs6877870 | 5   | 95907773 | A        | 0.0038  |
| rs26503   | 5   | 96104065 | C        | 0.00019 |
| rs42398   | 5   | 96146211 | C        | 0.00420 |
| rs34735   | 5   | 96191820 | G        | 0.00527 |
| rs316223  | 5   | 96439423 | G        | 0.0034  |
| rs7701806 | 5   | 96701855 | T        | 0.00404 |
| rs291827  | 5   | 96783901 | G        | 0.00899 |
| rs1135533 | 5   | 97240561 | C        | 0.01248 |
| rs17653177| 5   | 97290848 | C        | 2.57400 |
| rs69930   | 5   | 97997020 | C        | 0.01394 |
| rs330419  | 5   | 98221064 | A        | 0.00938 |
| rs1916599 | 5   | 98802139 | G        | 0.00479 |
| rs2511902 | 5   | 98802264 | T        | 0.01258 |
| rs2461991 | 5   | 98821231 | C        | 0.00586 |
| rs2461953 | 5   | 98848971 | C        | 0.00009 |
| rs681634  | 5   | 98959050 | G        | 0.01078 |
| rs1462419 | 5   | 99080579 | G        | 0.01109 |
| rs7447852 | 5   | 99152807 | C        | 0.00420 |
| rs11241243| 5   | 99172882 | G        | 0.00042 |
| rs6878343 | 5   | 99181038 | T        | 0.01020 |
| rs3844092 | 5   | 99249586 | A        | 0.00693 |
| rs3844091 | 5   | 99249653 | T        | 0.01430 |
| rs4455602 | 5   | 99249738 | T        | 0.00678 |
| rs2924611 | 5   | 99278995 | G        | 0.00074 |
| rs10054412| 5   | 99332774 | G        | 0.00490 |
| rs10070116| 5   | 99350463 | G        | 0.01133 |
| rs11948786| 5   | 99379483 | G        | 0.00799 |
| rs17164397| 5   | 99411368 | C        | 0.01126 |
| rs1847522 | 5   | 99596439 | A        | 0.00620 |
| rs1824780 | 5   | 99671978 | A        | 0.00517 |
| rs2120913 | 5   | 100096374| G        | 0.01601 |
| rs279095  | 5   | 100100985| G        | 0.00952 |
| rs2544914 | 5   | 100211413| T        | 0.01365 |
| rs1833862 | 5   | 100271404| T        | 0.00701 |
| rs2048525 | 5   | 100518871| A        | 0.01341 |
| rs17257221| 5   | 101044509| A        | 0.01135 |
| rs6887208 | 5   | 101405943| T        | 0.00309 |
| rs11747250| 5   | 101451626| G        | 0.01337 |
| rs            | chrom | start_pos | allele | p       |
|---------------|-------|-----------|--------|---------|
| rs1376896     | 5     | 101774746 | G      | 0.00827 |
| rs17333350    | 5     | 101842508 | T      | 0.00813 |
| rs3105476     | 5     | 101980425 | T      | 0.00445 |
| rs3756583     | 5     | 102361943 | A      | 0.00108 |
| rs34823       | 5     | 102466190 | T      | 0.00089 |
| rs34767       | 5     | 102517410 | A      | 0.00927 |
| rs4703253     | 5     | 102920123 | C      | 0.01467 |
| rs2545657     | 5     | 103056635 | T      | 0.00786 |
| rs4703022     | 5     | 103367410 | A      | 0.01638 |
| rs6887182     | 5     | 103415779 | T      | 0.00600 |
| rs1420864     | 5     | 103445285 | T      | 0.00706 |
| rs2707407     | 5     | 103482656 | A      | 0.01406 |
| rs17156145    | 5     | 103492704 | G      | 0.01395 |
| rs1530303     | 5     | 103751354 | T      | 0.01569 |
| rs6892243     | 5     | 104206688 | C      | 0.01025 |
| rs1708591     | 5     | 104230671 | A      | 0.01389 |
| rs4373259     | 5     | 104839516 | A      | 0.01330 |
| rs286725      | 5     | 105165477 | G      | 0.00707 |
| rs11739968    | 5     | 105472939 | T      | 0.01497 |
| rs11242576    | 5     | 105646376 | A      | 0.01655 |
| rs7718256     | 5     | 105649051 | C      | 0.00190 |
| rs1561350     | 5     | 106117493 | A      | 0.00654 |
| rs17159340    | 5     | 106309005 | A      | 0.01426 |
| rs365807      | 5     | 106741517 | A      | 0.00431 |
| rs252818      | 5     | 106753590 | C      | 0.01497 |
| rs395561      | 5     | 106889874 | A      | 0.00537 |
| rs17160261    | 5     | 106982444 | A      | 0.00553 |
| rs13361436    | 5     | 107039611 | A      | 0.00104 |
| rs3846694     | 5     | 107194401 | G      | 0.00074 |
| rs7730156     | 5     | 107227719 | T      | 0.01508 |
| rs13157529    | 5     | 107348781 | C      | 0.01028 |
| rs6897334     | 5     | 109072457 | G      | 0.00482 |
| rs7711326     | 5     | 109203522 | A      | 0.01279 |
| rs2007136     | 5     | 109220135 | A      | 0.01175 |
| rs1368356     | 5     | 109223156 | A      | 0.00168 |
| rs245243      | 5     | 109258634 | T      | 0.00590 |
| rs42924       | 5     | 109272818 | G      | 0.00045 |
| rs6862355     | 5     | 109279160 | G      | 0.01270 |
| rs5023585     | 5     | 109381500 | G      | 0.01276 |
| rs9790859     | 5     | 109606900 | T      | 0.01028 |
| rs2162747     | 5     | 110755526 | A      | 0.00084 |
| rs17458866    | 5     | 110875631 | C      | 0.00753 |
| rs3923455     | 5     | 111627022 | T      | 0.01312 |
| rs6594630     | 5     | 111960644 | C      | 0.01154 |
| SNP            | Chromosome | Gene    | Allele 1 | Allele 2 | MAF    |
|----------------|------------|---------|----------|----------|--------|
| rs7732983      | 5          |         | G        |          | 0.00787|
| rs7731890      | 5          |         | C        |          | 0.00518|
| rs10072756     | 5          |         | A        |          | 0.01609|
| rs7737426      | 5          |         | T        |          | 0.00464|
| rs265411       | 5          |         | T        |          | 0.00078|
| rs2605177      | 5          |         | A        |          | 0.00713|
| rs256989       | 5          |         | C        |          | 0.00602|
| rs10079000     | 5          |         | C        |          | 0.01179|
| rs10055339     | 5          |         | T        |          | 0.01343|
| rs6881698      | 5          |         | A        |          | 0.01549|
| rs17138649     | 5          |         | C        |          | 0.01641|
| rs2136210      | 5          |         | T        |          | 0.00113|
| rs250323       | 5          |         | G        |          | 0.00597|
| rs1073205      | 5          |         | A        |          | 0.01201|
| rs17431959     | 5          |         | G        |          | 0.01434|
| rs2964653      | 5          |         | G        |          | 0.01076|
| rs698384       | 5          |         | G        |          | 0.00577|
| rs6594987      | 5          |         | T        |          | 0.01625|
| rs7706388      | 5          |         | A        |          | 0.01479|
| rs265899       | 5          |         | T        |          | 0.01439|
| rs265900       | 5          |         | A        |          | 0.00995|
| rs267074       | 5          |         | G        |          | 0.00116|
| rs371616       | 5          |         | A        |          | 0.01069|
| rs10037966     | 5          |         | T        |          | 0.01155|
| rs7726317      | 5          |         | A        |          | 0.00814|
| rs11952762     | 5          |         | G        |          | 0.00230|
| rs1597713      | 5          |         | T        |          | 0.00486|
| rs190489       | 5          |         | T        |          | 0.01280|
| rs12658673     | 5          |         | G        |          | 0.00924|
| rs6595233      | 5          |         | G        |          | 0.00877|
| rs1375466      | 5          |         | G        |          | 0.00446|
| rs11953153     | 5          |         | T        |          | 0.00658|
| rs13153260     | 5          |         | C        |          | 0.01065|
| rs607107       | 5          |         | C        |          | 0.01565|
| rs10038048     | 5          |         | A        |          | 0.00953|
| rs4547952      | 5          |         | G        |          | 0.00940|
| rs17148409     | 5          |         | C        |          | 0.01636|
| rs10073705     | 5          |         | G        |          | 0.01161|
| rs17149128     | 5          |         | A        |          | 0.00663|
| rs12719304     | 5          |         | G        |          | 0.01266|
| rs10066937     | 5          |         | G        |          | 0.00821|
| rs9327254      | 5          |         | A        |          | 0.01437|
| rs4438871      | 5          |         | C        |          | 0.01562|
| rs13169898     | 5          |         | C        |          | 0.00644|
| rs          | chr | pos    | ref | alt | p_value |
|-------------|-----|--------|-----|-----|---------|
| rs982926    | 5   | 122382791 | G   |     | 0.00204 |
| rs458158    | 5   | 122510080  | C   |     | 0.01188 |
| rs335207    | 5   | 122532133  | C   |     | 0.00513 |
| rs11241714  | 5   | 123151584  | T   |     | 0.00300 |
| rs6889859   | 5   | 123176800  | G   |     | 0.00903 |
| rs3909329   | 5   | 123196141  | C   |     | 0.01449 |
| rs2244177   | 5   | 123344476  | G   |     | 0.00383 |
| rs10055109  | 5   | 123448411  | T   |     | 0.01429 |
| rs1457690   | 5   | 123501287  | C   |     | 0.00141 |
| rs11241714  | 5   | 123981123  | G   |     | 0.00901 |
| rs6871217   | 5   | 123988346  | A   |     | 0.01314 |
| rs13359971  | 5   | 124269512  | C   |     | 0.00532 |
| rs4458563   | 5   | 124304963  | G   |     | 0.00395 |
| rs3932131   | 5   | 124763822  | A   |     | 0.01631 |
| rs7707807   | 5   | 124927142  | G   |     | 0.01574 |
| rs963445    | 5   | 125046256  | G   |     | 0.00280 |
| rs327852    | 5   | 125290241  | A   |     | 0.00009 |
| rs326022    | 5   | 125306885  | A   |     | 0.00563 |
| rs17165007  | 5   | 125337442  | C   |     | 0.00959 |
| rs13180385  | 5   | 125338678  | G   |     | 0.00875 |
| rs4836240   | 5   | 125354492  | T   |     | 0.01011 |
| rs17584191  | 5   | 125561029  | T   |     | 0.01367 |
| rs11738463  | 5   | 125707638  | A   |     | 0.00329 |
| rs6595708   | 5   | 125823124  | T   |     | 0.00190 |
| rs26946     | 5   | 126717388  | T   |     | 0.01529 |
| rs806100    | 5   | 127496076  | G   |     | 0.00388 |
| rs13361165  | 5   | 130442705  | C   |     | 0.00703 |
| rs17132127  | 5   | 131314824  | A   |     | 0.00771 |
| rs77938     | 5   | 131350393  | T   |     | 0.01610 |
| rs152125    | 5   | 131455060  | G   |     | 0.00495 |
| rs2306772   | 5   | 131703880  | T   |     | 0.00689 |
| rs2631362   | 5   | 131735192  | A   |     | 0.01434 |
| rs803223    | 5   | 132236262  | G   |     | 0.01442 |
| rs3798128   | 5   | 132258930  | T   |     | 0.00595 |
| rs6876812   | 5   | 132484085  | A   |     | 0.01570 |
| rs10515458  | 5   | 132697894  | T   |     | 0.01440 |
| rs4958122   | 5   | 132732003  | C   |     | 0.01136 |
| rs250856    | 5   | 132756827  | G   |     | 0.00659 |
| rs9686131   | 5   | 132922095  | T   |     | 0.00865 |
| rs11739949  | 5   | 133029830  | A   |     | 0.00368 |
| rs6596147   | 5   | 133075674  | T   |     | 0.01233 |
| rs7719165   | 5   | 133104797  | G   |     | 0.01421 |
| rs10078111  | 5   | 133211769  | A   |     | 0.01575 |
| rs7735912   | 5   | 133554588  | C   |     | 0.00921 |
| SNP          | Chromosome | Position   | Allele | P-value  |
|--------------|------------|------------|--------|----------|
| rs17167478   | 5          | 133731491  | A      | 0.00308  |
| rs646506     | 5          | 134486807  | T      | 0.01191  |
| rs703254     | 5          | 134758142  | A      | 0.01006  |
| rs3860110    | 5          | 134896238  | T      | 0.00488  |
| rs2344485    | 5          | 134896540  | C      | 0.00595  |
| rs6858990    | 5          | 134972046  | A      | 0.01088  |
| rs7709847    | 5          | 135036890  | T      | 0.01534  |
| rs11242261   | 5          | 135056573  | A      | 0.00523  |
| rs17169348   | 5          | 135264117  | T      | 0.00870  |
| rs17598926   | 5          | 135325449  | G      | 0.01660  |
| rs2428158    | 5          | 135341751  | C      | 0.00246  |
| rs30757      | 5          | 135383122  | A      | 0.00631  |
| rs17170027   | 5          | 135641325  | C      | 0.01355  |
| rs7701815    | 5          | 135649997  | C      | 0.01150  |
| rs11958545   | 5          | 135651835  | T      | 0.01153  |
| rs3822748    | 5          | 135693248  | C      | 0.01244  |
| rs346643     | 5          | 135745093  | C      | 0.01164  |
| rs10075375   | 5          | 136028836  | T      | 0.01100  |
| rs7724748    | 5          | 136219411  | G      | 0.00850  |
| rs7727317    | 5          | 136538565  | C      | 0.00679  |
| rs17778739   | 5          | 136579897  | C      | 0.01151  |
| rs1229728    | 5          | 136714733  | T      | 0.01503  |
| rs6596396    | 5          | 136949515  | C      | 0.00839  |
| rs757647     | 5          | 137735214  | A      | 0.00343  |
| rs4835678    | 5          | 137736333  | A      | 0.00318  |
| rs17118468   | 5          | 139204919  | C      | 0.01364  |
| rs2910339    | 5          | 140614479  | A      | 0.00175  |
| rs251177     | 5          | 141007068  | C      | 0.00289  |
| rs248626     | 5          | 141077909  | A      | 0.00631  |
| rs17097850   | 5          | 141273771  | C      | 0.00007  |
| rs3850578    | 5          | 141515756  | T      | 0.00158  |
| rs58644      | 5          | 141772011  | T      | 0.01353  |
| rs33970      | 5          | 141914901  | A      | 0.00312  |
| rs17099407   | 5          | 142080985  | A      | 0.01518  |
| rs258759     | 5          | 142536786  | T      | 0.01154  |
| rs164431     | 5          | 142963981  | A      | 0.00210  |
| rs1421776    | 5          | 143230072  | T      | 0.01278  |
| rs312634     | 5          | 143380861  | T      | 0.00932  |
| rs309328     | 5          | 143398614  | T      | 0.01281  |
| rs17101705   | 5          | 143558959  | T      | 0.01154  |
| rs34463305   | 5          | 143884468  | T      | 0.00121  |
| rs          | Chromosome | Position       | Type | p     |
|-------------|------------|----------------|------|-------|
| rs6870605   | 5          | 143900921      | A    | 0.01531 |
| rs11741041  | 5          | 144314948      | A    | 0.00807 |
| rs11741672  | 5          | 144338909      | G    | 0.00213 |
| rs6580376   | 5          | 144845810      | A    | 0.00875 |
| rs11745319  | 5          | 145190785      | C    | 0.01546 |
| rs385175    | 5          | 145191281      | A    | 0.00795 |
| rs417215    | 5          | 145191308      | A    | 0.00248 |
| rs12518731  | 5          | 145343055      | G    | 0.01150 |
| rs17104321  | 5          | 145582091      | C    | 0.00224 |
| rs17104331  | 5          | 145593015      | G    | 0.01426 |
| rs17104362  | 5          | 145630790      | G    | 0.00702 |
| rs10515569  | 5          | 145712753      | G    | 0.01381 |
| rs997011    | 5          | 145752014      | C    | 0.00215 |
| rs6580417   | 5          | 145753403      | A    | 0.00937 |
| rs7717315   | 5          | 145881372      | G    | 0.00658 |
| rs6881391   | 5          | 145899863      | G    | 0.00851 |
| rs460781    | 5          | 146014684      | C    | 0.01597 |
| rs460413    | 5          | 146014728      | T    | 0.01494 |
| rs458164    | 5          | 146023125      | A    | 0.01228 |
| rs182697    | 5          | 146027384      | G    | 0.01443 |
| rs462706    | 5          | 146034170      | G    | 0.00966 |
| rs464459    | 5          | 146034654      | G    | 0.01429 |
| rs10061370  | 5          | 146048554      | C    | 0.01207 |
| rs2400228   | 5          | 146049791      | T    | 0.00541 |
| rs7716683   | 5          | 146060205      | A    | 0.01332 |
| rs2926170   | 5          | 146292592      | T    | 0.00634 |
| rs17106458  | 5          | 146693780      | C    | 0.01347 |
| rs10079191  | 5          | 146696881      | A    | 0.01413 |
| rs6884181   | 5          | 146703083      | G    | 0.01149 |
| rs918797    | 5          | 146708683      | A    | 0.01576 |
| rs4705166   | 5          | 146709417      | G    | 0.00239 |
| rs2288806   | 5          | 146755668      | T    | 0.00949 |
| rs17550470  | 5          | 146759060      | T    | 0.01007 |
| rs12655364  | 5          | 146759414      | T    | 0.00693 |
| rs3805536   | 5          | 146763849      | C    | 0.00364 |
| rs1529688   | 5          | 146999957      | C    | 0.00111 |
| rs41358349  | 5          | 147537135      | G    | 0.01243 |
| rs250674    | 5          | 148418790      | A    | 0.00597 |
| rs17110060  | 5          | 148780327      | T    | 0.00680 |
| rs7719910   | 5          | 149426180      | A    | 0.01219 |
| rs6579777   | 5          | 149561423      | A    | 0.00288 |
| rs17111053  | 5          | 149575303      | A    | 0.01245 |
| rs4958469   | 5          | 149585309      | A    | 0.00978 |
| rs4246045   | 5          | 150157290      | C    | 0.00202 |
| SNP          | Chrs | Positions      | Ref | ATOH |
|--------------|------|----------------|-----|------|
| rs17716141   | 5    | 150622548      | A   | 0.00342 |
| rs1368369    | 5    | 150948496      | A   | 0.01591 |
| rs154696     | 5    | 151436036      | T   | 0.00113 |
| rs29849      | 5    | 151443684      | A   | 0.00977 |
| rs159822     | 5    | 151447865      | A   | 0.00836 |
| rs4639211    | 5    | 151563603      | G   | 0.00508 |
| rs4443412    | 5    | 151638395      | A   | 0.00806 |
| rs9324721    | 5    | 151645382      | T   | 0.00548 |
| rs1265499    | 5    | 151880567      | A   | 0.00444 |
| rs4475248    | 5    | 151892892      | C   | 0.01210 |
| rs11959980   | 5    | 151970674      | C   | 0.01454 |
| rs7733725    | 5    | 151991698      | G   | 0.00308 |
| rs17565505   | 5    | 152044626      | G   | 0.00577 |
| rs12518989   | 5    | 152211517      | G   | 0.00849 |
| rs4958596    | 5    | 152307861      | A   | 0.01071 |
| rs17578068   | 5    | 152469215      | A   | 0.01472 |
| rs13173299   | 5    | 152488109      | A   | 0.00143 |
| rs17503275   | 5    | 152568409      | A   | 0.00577 |
| rs10477084   | 5    | 153090050      | A   | 0.00904 |
| rs7711124    | 5    | 153123087      | C   | 0.00184 |
| rs2614125    | 5    | 153247946      | G   | 0.00111 |
| rs898709     | 5    | 153267157      | A   | 0.01662 |
| rs2614123    | 5    | 153280408      | G   | 0.01425 |
| rs27154      | 5    | 153722036      | A   | 0.00594 |
| rs286596     | 5    | 154327177      | T   | 0.00696 |
| rs17116724   | 5    | 154401432      | G   | 0.00666 |
| rs6580138    | 5    | 154469281      | T   | 0.00989 |
| rs6875111    | 5    | 155186458      | T   | 0.01593 |
| rs1347118    | 5    | 155394838      | T   | 0.00999 |
| rs157337     | 5    | 156063829      | T   | 0.01032 |
| rs6555827    | 5    | 156425016      | C   | 0.01474 |
| rs3777059    | 5    | 157170036      | A   | 0.00461 |
| rs2650359    | 5    | 157199237      | T   | 0.00748 |
| rs1173481    | 5    | 157492557      | T   | 0.00932 |
| rs10065017   | 5    | 157738982      | G   | 0.00324 |
| rs17055538   | 5    | 157744807      | A   | 0.01626 |
| rs2963478    | 5    | 157925272      | A   | 0.00247 |
| rs2420211    | 5    | 158098219      | A   | 0.00863 |
| rs1368298    | 5    | 158137003      | C   | 0.01576 |
| rs1549883    | 5    | 158159232      | T   | 0.00844 |
| rs4704963    | 5    | 158179956      | C   | 0.01209 |
| rs4704967    | 5    | 158192277      | T   | 0.00181 |
| rs10056564   | 5    | 158193834      | C   | 0.00847 |
| rs13171583   | 5    | 158201332      | G   | 0.01553 |
| SNP      | Chromosome | Position   | Allele | p-value |
|----------|------------|------------|--------|---------|
| rs10054046 | 5          | 158242261  | T      | 0.00541 |
| rs194229   | 5          | 158600287  | G      | 0.00582 |
| rs3846687  | 5          | 158612157  | G      | 0.00994 |
| rs6888934  | 5          | 158864376  | G      | 0.01501 |
| rs7737796  | 5          | 159302007  | C      | 0.00083 |
| rs9313851  | 5          | 159908441  | C      | 0.00787 |
| rs7707116  | 5          | 159912956  | C      | 0.01529 |
| rs609651   | 5          | 160562804  | T      | 0.01599 |
| rs17059065 | 5          | 160581664  | A      | 0.01547 |
| rs6893149  | 5          | 161035720  | A      | 0.00961 |
| rs730014   | 5          | 161609374  | A      | 0.01554 |
| rs2913561  | 5          | 162581271  | T      | 0.01113 |
| rs17061334 | 5          | 162583830  | A      | 0.00975 |
| rs2059796  | 5          | 162592782  | A      | 0.00432 |
| rs300196   | 5          | 162631659  | T      | 0.01133 |
| rs6880977  | 5          | 162991701  | A      | 0.01048 |
| rs17285868 | 5          | 163631534  | A      | 0.00795 |
| rs2963133  | 5          | 164146342  | G      | 0.00115 |
| rs1421681  | 5          | 164440850  | T      | 0.01384 |
| rs2133726  | 5          | 165695838  | T      | 0.00740 |
| rs1392384  | 5          | 165727152  | A      | 0.00902 |
| rs135943   | 5          | 165771085  | C      | 0.01141 |
| rs6872688  | 5          | 166292646  | C      | 0.00492 |
| rs17495541 | 5          | 166572579  | G      | 0.01396 |
| rs17436436 | 5          | 167298017  | C      | 0.00555 |
| rs1432821  | 5          | 167496163  | T      | 0.01221 |
| rs11949188 | 5          | 167680766  | T      | 0.01222 |
| rs1120242  | 5          | 168005933  | G      | 0.00101 |
| rs12659534 | 5          | 168162396  | C      | 0.01255 |
| rs1109106  | 5          | 168177820  | T      | 0.01657 |
| rs17666252 | 5          | 168226924  | T      | 0.00097 |
| rs6897408  | 5          | 168238733  | T      | 0.00880 |
| rs11739950 | 5          | 168346952  | G      | 0.00567 |
| rs8180402  | 5          | 168576631  | C      | 0.00877 |
| rs2080865  | 5          | 168636725  | A      | 0.01520 |
| rs2338656  | 5          | 168787116  | C      | 0.00732 |
| rs39797    | 5          | 168796010  | G      | 0.00448 |
| rs1182093  | 5          | 169311377  | A      | 0.00270 |
| rs9313476  | 5          | 169336666  | A      | 0.00105 |
| rs9313523  | 5          | 170119753  | C      | 0.00775 |
| rs10475958 | 5          | 170130357  | A      | 0.00144 |
| rs10475959 | 5 | 170130444 | C | 0.00948 |
|-----------|---|-----------|---|---------|
| rs33855   | 5 | 171124642 | T | 0.01455 |
| rs17074274| 5 | 171436401 | G | 0.01110 |
| rs9313575 | 5 | 171437235 | A | 0.01094 |
| rs1368430 | 5 | 171884506 | G | 0.01271 |
| rs11741273| 5 | 171884740 | G | 0.01238 |
| rs17075007| 5 | 171964153 | C | 0.00485 |
| rs17075979| 5 | 172824632 | T | 0.00908 |
| rs33855   | 5 | 171124642 | T | 0.01455 |
| rs17074274| 5 | 171436401 | G | 0.01110 |
| rs9313575 | 5 | 171437235 | A | 0.01094 |
| rs1368430 | 5 | 171884506 | G | 0.01271 |
| rs11741273| 5 | 171884740 | G | 0.01238 |
| rs17075007| 5 | 171964153 | C | 0.00485 |
| rs17075979| 5 | 172824632 | T | 0.00908 |
| rs33855   | 5 | 171124642 | T | 0.01455 |
| rs17074274| 5 | 171436401 | G | 0.01110 |
| rs9313575 | 5 | 171437235 | A | 0.01094 |
| rs1368430 | 5 | 171884506 | G | 0.01271 |
| rs11741273| 5 | 171884740 | G | 0.01238 |
| rs17075007| 5 | 171964153 | C | 0.00485 |
| rs17075979| 5 | 172824632 | T | 0.00908 |
| rs33855   | 5 | 171124642 | T | 0.01455 |
| rs17074274| 5 | 171436401 | G | 0.01110 |
| rs9313575 | 5 | 171437235 | A | 0.01094 |
| rs1368430 | 5 | 171884506 | G | 0.01271 |
| rs11741273| 5 | 171884740 | G | 0.01238 |
| rs17075007| 5 | 171964153 | C | 0.00485 |
| rs17075979| 5 | 172824632 | T | 0.00908 |
| SNP        | Chromosome | Position   | Allele | P-Value |
|------------|------------|------------|--------|---------|
| rs9392436  | 6          | 2816084    | G      | 6.13100 |
| rs7757819  | 6          | 2863546    | G      | 0.01522 |
| rs4149361  | 6          | 2951984    | C      | 0.00078 |
| rs9503499  | 6          | 3200856    | T      | 0.01459 |
| rs7747817  | 6          | 3298526    | G      | 0.00448 |
| rs1887843  | 6          | 3299260    | G      | 0.00078 |
| rs9503499  | 6          | 3200856    | T      | 0.01459 |
| rs4149361  | 6          | 2951984    | C      | 0.00078 |
| rs9392668  | 6          | 5238939    | A      | 0.01607 |
| rs9328294  | 6          | 5239371    | A      | 0.01021 |
| rs17140654 | 6          | 5342937    | A      | 0.00971 |
| rs7746914  | 6          | 5565992    | T      | 0.00971 |
| rs877010   | 6          | 5624225    | G      | 0.00692 |
| rs126456   | 6          | 6654484    | A      | 0.00743 |
| rs6929018  | 6          | 6818697    | C      | 0.00905 |
| rs665723   | 6          | 7084063    | A      | 0.00677 |
| rs9328425  | 6          | 7414231    | G      | 0.01486 |
| rs2806187  | 6          | 7446348    | A      | 0.01600 |
| rs267184   | 6          | 7778428    | C      | 0.01239 |
| rs155476   | 6          | 7906188    | G      | 0.00517 |
| rs9393054  | 6          | 8592441    | T      | 0.01024 |
| rs10484330 | 6          | 8980683    | T      | 0.01320 |
| rs9379680  | 6          | 9404897    | T      | 0.01472 |
| rs1410364  | 6          | 9837105    | T      | 0.00664 |
| rs7765635  | 6          | 9859151    | G      | 0.01048 |
| rs855375   | 6          | 9930143    | T      | 0.00292 |
| rs4712384  | 6          | 10269797   | C      | 0.00649 |
| rs3734397  | 6          | 11090834   | C      | 0.00958 |
| rs7452101  | 6          | 11261838   | C      | 0.01520 |
| rs9468726  | 6          | 11374928   | C      | 0.00293 |
| rs17764967 | 6          | 11598841   | G      | 0.00481 |
| rs505685   | 6          | 11631872   | T      | 0.01239 |
| rs2235418  | 6          | 11840809   | T      | 0.01461 |
| rs7741952  | 6          | 11986230   | T      | 0.00936 |
| rs17616767 | 6          | 12870640   | A      | 0.01105 |
| rs9396412  | 6          | 14096729   | C      | 0.00880 |
| rs9382937  | 6          | 14191042   | A      | 0.00310 |
| rs6459366  | 6          | 14692375   | T      | 0.01087 |
| rs857464   | 6          | 14715101   | A      | 0.00081 |
| rs17450822 | 6          | 14748578   | G      | 0.00951 |
| rs2500065  | 6          | 14844570   | G      | 0.00020 |
| rs9396529  | 6          | 14844629   | C      | 0.01518 |
| rs9382996  | 6          | 14847961   | T      | 0.00001 |
| SNP       | Chromosome | Position  | Major Allele | Minor Allele | P-Value |
|-----------|------------|-----------|--------------|--------------|---------|
| rs2747507 | 6          | 15200644  | T            | 0.00715      |         |
| rs808361  | 6          | 15988357  | G            | 0.00505      |         |
| rs11963956| 6          | 16286779  | A            | 0.01118      |         |
| rs2327951 | 6          | 16303287  | A            | 0.00922      |         |
| rs2143452 | 6          | 16520903  | G            | 0.00054      |         |
| rs10484364| 6          | 16661431  | T            | 0.00798      |         |
| rs1570487 | 6          | 16791838  | T            | 0.00191      |         |
| rs10456788| 6          | 16858835  | C            | 0.01152      |         |
| rs11963956| 6          | 17054324  | T            | 0.00194      |         |
| rs1324145 | 6          | 17268036  | T            | 0.00829      |         |
| rs9367945 | 6          | 17288278  | G            | 0.00482      |         |
| rs7765428 | 6          | 18033405  | T            | 0.00847      |         |
| rs1570683 | 6          | 18447773  | A            | 0.00294      |         |
| rs568108  | 6          | 18536837  | A            | 0.00991      |         |
| rs777287  | 6          | 18553773  | A            | 0.00396      |         |
| rs10456830| 6          | 18560597  | A            | 0.00307      |         |
| rs9297082 | 6          | 18642317  | A            | 0.01574      |         |
| rs11968659| 6          | 18772640  | T            | 0.01217      |         |
| rs4610574 | 6          | 19244130  | T            | 0.01223      |         |
| rs10946315| 6          | 19506312  | A            | 0.01212      |         |
| rs9358264 | 6          | 19814250  | C            | 0.00669      |         |
| rs9460408 | 6          | 19847922  | C            | 0.01603      |         |
| rs9366344 | 6          | 20435828  | T            | 0.00324      |         |
| rs9358331 | 6          | 20452975  | A            | 0.00743      |         |
| rs9356730 | 6          | 20453095  | G            | 0.01619      |         |
| rs9348440 | 6          | 20749315  | A            | 0.00454      |         |
| rs6456397 | 6          | 21227109  | G            | 0.01371      |         |
| rs2493869 | 6          | 21243137  | T            | 0.00985      |         |
| rs9295495 | 6          | 21247079  | A            | 0.00715      |         |
| rs7752602 | 6          | 21258436  | C            | 0.01308      |         |
| rs1459047 | 6          | 21308369  | C            | 0.01436      |         |
| rs9366399 | 6          | 21483974  | G            | 0.00052      |         |
| rs9466056 | 6          | 21492592  | C            | 0.01066      |         |
| rs1740852 | 6          | 21716958  | G            | 0.00165      |         |
| rs4712631 | 6          | 21818875  | C            | 0.01042      |         |
| rs9368373 | 6          | 22024631  | C            | 0.01227      |         |
| rs11751362| 6          | 22063943  | G            | 0.01412      |         |
| rs7766354 | 6          | 22103738  | T            | 0.00645      |         |
| rs17263098| 6          | 22316487  | A            | 0.00498      |         |
| rs1205898 | 6          | 22448557  | G            | 0.01473      |         |
| rs10485008| 6          | 22614610  | G            | 0.00562      |         |
| rs7741889 | 6          | 22625935  | T            | 0.00591      |         |
| rs6927431 | 6          | 22626538  | T            | 0.01630      |         |
| SNP      | Chromosome | Position      | Allele | MAF |
|----------|------------|---------------|--------|-----|
| rs7748467 | 6          | 22627328      | G      | 0.01603 |
| rs9393306 | 6          | 22629109      | G      | 0.00685 |
| rs6927934 | 6          | 22747766      | C      | 0.01254 |
| rs4448082 | 6          | 22834795      | A      | 0.00520 |
| rs9393333 | 6          | 22885610      | A      | 0.00973 |
| rs4131446 | 6          | 23237967      | G      | 0.01202 |
| rs440115  | 6          | 23548392      | C      | 0.00192 |
| rs199024  | 6          | 23555091      | G      | 0.00443 |
| rs191815  | 6          | 23572989      | T      | 0.01310 |
| rs187936  | 6          | 23584367      | G      | 0.01606 |
| rs199067  | 6          | 23591265      | T      | 0.01628 |
| rs199059  | 6          | 23595836      | C      | 0.01091 |
| rs2180936 | 6          | 23738028      | C      | 0.00615 |
| rs7743895 | 6          | 23743977      | A      | 0.00147 |
| rs7762347 | 6          | 23762820      | T      | 0.01108 |
| rs12190667| 6          | 24039481      | T      | 0.00377 |
| rs7455023 | 6          | 2421681       | A      | 0.01458 |
| rs2744600 | 6          | 24641411      | T      | 0.00072 |
| rs393228  | 6          | 25070407      | T      | 0.01071 |
| rs1739326 | 6          | 25071608      | A      | 0.00877 |
| rs303899  | 6          | 25147772      | G      | 0.00419 |
| rs6456652 | 6          | 25263186      | G      | 0.00207 |
| rs9467448 | 6          | 25353083      | T      | 0.01504 |
| rs16890640| 6          | 25577310      | T      | 0.00452 |
| rs548987  | 6          | 25977350      | C      | 0.00454 |
| rs2230655 | 6          | 26141485      | G      | 0.00118 |
| rs16891417| 6          | 26319374      | T      | 0.01614 |
| rs2143345 | 6          | 26337127      | C      | 0.01381 |
| rs3757142 | 6          | 26488524      | A      | 0.00671 |
| rs3757149 | 6          | 26489295      | T      | 0.01363 |
| rs2498380 | 6          | 26751975      | C      | 0.01629 |
| rs2475068 | 6          | 26935875      | A      | 0.01471 |
| rs7776164 | 6          | 29066437      | T      | 0.00755 |
| rs7770592 | 6          | 29503726      | A      | 0.01152 |
| rs29226   | 6          | 29688990      | A      | 0.00663 |
| rs3130252 | 6          | 29739723      | C      | 0.00632 |
| rs1610593 | 6          | 29786499      | T      | 0.00839 |
| rs1627465 | 6          | 29790880      | C      | 0.00034 |
| rs9258205 | 6          | 29811802      | A      | 0.00709 |
| rs16896944| 6          | 30134125      | G      | 0.01234 |
| rs9261536 | 6          | 30239328      | A      | 0.00876 |
| rs9261739 | 6          | 30475514      | A      | 0.01394 |
| rs2516675 | 6          | 30538499      | T      | 0.00991 |
| rs3130666 | 6          | 30848139      | T      | 0.01121 |
| SNP          | CHROM | CHROMOSOME | REF | ALT | P-VALUE |
|-------------|-------|------------|-----|-----|---------|
| rs2240063   | 6     | 31222724   | C   |     | 0.01241 |
| rs2106074   | 6     | 31241488   | G   |     | 0.00185 |
| rs2596517   | 6     | 31468074   | C   |     | 0.01487 |
| rs2523693   | 6     | 31526103   | G   |     | 0.00178 |
| rs3115537   | 6     | 31605814   | G   |     | 0.00956 |
| rs2071593   | 6     | 31620778   | G   |     | 0.01554 |
| rs9268418   | 6     | 32451664   | T   |     | 0.01029 |
| rs2070121   | 6     | 32889532   | G   |     | 0.00521 |
| rs7763822   | 6     | 33168406   | C   |     | 0.00968 |
| rs3117230   | 6     | 33183613   | A   |     | 0.01210 |
| rs4713633   | 6     | 33585118   | A   |     | 0.00143 |
| rs444697    | 6     | 33682987   | T   |     | 0.00202 |
| rs1408711   | 6     | 33727986   | G   |     | 0.00152 |
| rs2495965   | 6     | 34028529   | T   |     | 0.01386 |
| rs6918981   | 6     | 34346942   | A   |     | 0.00968 |
| rs6691      | 6     | 34360330   | T   |     | 0.01363 |
| rs3800426   | 6     | 35117174   | G   |     | 0.01517 |
| rs2820223   | 6     | 35117273   | G   |     | 0.01437 |
| rs2817032   | 6     | 35796597   | G   |     | 0.00260 |
| rs9470131   | 6     | 35919641   | G   |     | 0.00038 |
| rs9470139   | 6     | 35929492   | G   |     | 0.00963 |
| rs9462141   | 6     | 35943016   | G   |     | 0.00850 |
| rs10456081  | 6     | 36033776   | C   |     | 0.00206 |
| rs7754088   | 6     | 36062312   | C   |     | 0.00290 |
| rs16884919  | 6     | 36179495   | A   |     | 0.00281 |
| rs1476017   | 6     | 36418874   | C   |     | 0.01540 |
| rs2015973   | 6     | 36422250   | A   |     | 0.00969 |
| rs12208229  | 6     | 36458402   | G   |     | 0.00473 |
| rs6923993   | 6     | 36535254   | A   |     | 0.00441 |
| rs236486    | 6     | 36794385   | A   |     | 0.00148 |
| rs236434    | 6     | 36837628   | G   |     | 0.00934 |
| rs16889183  | 6     | 36913731   | A   |     | 0.00194 |
| rs2293381   | 6     | 37046410   | A   |     | 0.00753 |
| rs7751412   | 6     | 37218073   | G   |     | 0.00519 |
| rs9462297   | 6     | 37410410   | G   |     | 0.01602 |
| rs6942122   | 6     | 37630944   | A   |     | 0.00552 |
| rs9369014   | 6     | 37692288   | T   |     | 0.01454 |
| rs2842509   | 6     | 38144544   | C   |     | 0.00639 |
| rs12660215  | 6     | 38413748   | G   |     | 0.00323 |
| rs9357271   | 6     | 38473851   | A   |     | 0.00693 |
| rs9394524   | 6     | 38769909   | A   |     | 0.01115 |
| rs1018631   | 6     | 40379505   | C   |     | 0.01579 |
| rs4714329   | 6     | 40381435   | C   |     | 0.00380 |
| rs715831    | 6     | 40400445   | A   |     | 0.01065 |
| ID            | Chromosome | Position  | Allele | p-value |
|---------------|------------|-----------|--------|---------|
| rs9462616     | 6          | 40464159  | T      | 0.00603 |
| rs2436731     | 6          | 40534831  | A      | 0.00476 |
| rs1433725     | 6          | 40538982  | T      | 0.01242 |
| rs2487372     | 6          | 40587968  | G      | 0.00188 |
| rs7738344     | 6          | 40632698  | A      | 0.00565 |
| rs1771294     | 6          | 40695765  | A      | 0.00912 |
| rs9369260     | 6          | 41118346  | C      | 0.00094 |
| rs6903444     | 6          | 41122198  | C      | 0.01568 |
| rs9462675     | 6          | 41261216  | A      | 0.00661 |
| rs4711658     | 6          | 41270869  | C      | 0.01275 |
| rs12180804    | 6          | 41398268  | G      | 0.00244 |
| rs4711690     | 6          | 41816916  | C      | 0.01077 |
| rs902962      | 6          | 42388855  | G      | 0.00875 |
| rs260274      | 6          | 42415548  | G      | 0.01414 |
| rs6905797     | 6          | 42750901  | C      | 0.01643 |
| rs3730363     | 6          | 43252032  | A      | 0.00859 |
| rs6458342     | 6          | 43647118  | G      | 0.00771 |
| rs833622      | 6          | 44008382  | C      | 0.01275 |
| rs16897100    | 6          | 44044639  | G      | 0.00670 |
| rs11755164    | 6          | 44747162  | G      | 0.01067 |
| rs3799986     | 6          | 45008231  | C      | 0.01228 |
| rs1329716     | 6          | 45061736  | T      | 0.00599 |
| rs9369527     | 6          | 45066350  | C      | 0.01296 |
| rs1852986     | 6          | 45437467  | G      | 0.01505 |
| rs17209874    | 6          | 45489562  | T      | 0.00876 |
| rs6930053     | 6          | 45596736  | G      | 0.00511 |
| rs3777583     | 6          | 46022068  | T      | 0.01213 |
| rs1010893     | 6          | 46038854  | G      | 0.01610 |
| rs3777618     | 6          | 46077981  | C      | 0.00240 |
| rs3777622     | 6          | 46083313  | C      | 0.01437 |
| rs9357499     | 6          | 46165268  | A      | 0.00695 |
| rs2584076     | 6          | 46311588  | T      | 0.00554 |
| rs7766177     | 6          | 46371124  | A      | 0.00720 |
| rs16874575    | 6          | 46391881  | T      | 0.01638 |
| rs630033      | 6          | 46939731  | G      | 0.00620 |
| rs628638      | 6          | 46940057  | G      | 0.00307 |
| rs220702      | 6          | 46975676  | C      | 0.00875 |
| rs2077055     | 6          | 47018374  | T      | 0.01491 |
| rs4714964     | 6          | 47028949  | G      | 0.00199 |
| rs1413933     | 6          | 47047792  | T      | 0.00528 |
| rs2396821     | 6          | 47183758  | G      | 0.00396 |
| rs9369662     | 6          | 47258931  | G      | 0.00855 |
| rs9349407     | 6          | 47561337  | G      | 0.01418 |
| rs10948378    | 6          | 47802961  | C      | 0.01439 |
| rsID          | POS  | Gene   | Chromosome | AF   |
|--------------|------|--------|------------|------|
| rs16876415   | 6    |        | 16         | 0.01282 |
| rs10807383   | 6    |        | 8          | 0.00434 |
| rs1325706    | 6    |        | 16         | 0.01372 |
| rs1334842    | 6    |        | 16         | 0.00599 |
| rs1530831    | 6    |        | 16         | 0.01271 |
| rs12204466   | 6    |        | 16         | 0.00255 |
| rs11758627   | 6    |        | 16         | 0.00630 |
| rs7756016    | 6    |        | 16         | 0.00344 |
| rs9349509    | 6    |        | 16         | 0.00599 |
| rs1334842    | 6    |        | 16         | 0.00630 |
| rs10948617   | 6    |        | 16         | 0.01618 |
| rs10948618   | 6    |        | 16         | 0.01634 |
| rs4644046    | 6    |        | 16         | 0.01652 |
| rs10948623   | 6    |        | 16         | 0.01558 |
| rs12214769   | 6    |        | 16         | 0.00524 |
| rs10948634   | 6    |        | 16         | 0.01661 |
| rs6930919    | 6    |        | 16         | 0.00890 |
| rs1108202    | 6    |        | 16         | 0.01599 |
| rs2784217    | 6    |        | 16         | 0.01038 |
| rs624699     | 6    |        | 16         | 0.01606 |
| rs1474991    | 6    |        | 16         | 0.00137 |
| rs10484879   | 6    |        | 16         | 0.00197 |
| rs6917841    | 6    |        | 16         | 0.01147 |
| rs2179803    | 6    |        | 16         | 0.01075 |
| rs6913533    | 6    |        | 16         | 0.00583 |
| rs6920669    | 6    |        | 16         | 0.01209 |
| rs1346603    | 6    |        | 16         | 0.01642 |
| rs16884542   | 6    |        | 16         | 0.00082 |
| rs1321884    | 6    |        | 16         | 0.00482 |
| rs6913087    | 6    |        | 16         | 0.01190 |
| rs12661397   | 6    |        | 16         | 0.00150 |
| rs9475023    | 6    |        | 16         | 0.00557 |
| rs4626423    | 6    |        | 16         | 0.00596 |
| rs9475342    | 6    |        | 16         | 0.00523 |
| rs4398739    | 6    |        | 16         | 0.00855 |
| rs6459114    | 6    |        | 16         | 0.01580 |
| rs6926110    | 6    |        | 16         | 0.00360 |
| rs9464315    | 6    |        | 16         | 0.01599 |
| rs3996940    | 6    |        | 16         | 0.01055 |
|        |   |                | |          |
|--------|---|----------------||----------|
| rs12525967 | 6 | 56234901       | A | 0.00790  |
| rs2397214  | 6 | 56254519       | G | 0.00051  |
| rs6929091  | 6 | 56553994       | A | 0.00094  |
| rs6928715  | 6 | 57159524       | G | 0.00798  |
| rs1755833  | 6 | 57294253       | T | 0.00472  |
| rs1336308  | 6 | 62067505       | A | 0.01499  |
| rs16885317 | 6 | 63224267       | T | 0.01499  |
| rs9360515  | 6 | 63283361       | A | 0.00046  |
| rs2459572  | 6 | 64051334       | C | 0.00273  |
| rs6929091  | 6 | 6553994        | A | 0.00094  |
| rs3846808  | 6 | 66820787       | A | 0.00022  |
| rs9354391  | 6 | 66946904       | T | 0.00389  |
| rs17644076 | 6 | 67061694       | A | 0.01154  |
| rs4631256  | 6 | 67246679       | T | 0.00152  |
| rs12662737 | 6 | 67331421       | G | 0.00716  |
| rs4710324  | 6 | 67408933       | T | 0.00526  |
| rs4493734  | 6 | 67459352       | A | 0.00491  |
| rs9360234  | 6 | 67577822       | T | 0.00888  |
| rs9351600  | 6 | 67586556       | A | 0.00676  |
| rs9360251  | 6 | 67702785       | G | 0.00241  |
| rs9345935  | 6 | 67721287       | G | 0.00438  |
| rs6933579  | 6 | 67728137       | C | 0.01425  |
| rs4292508  | 6 | 67738143       | A | 0.00165  |
| rs2502279  | 6 | 67822412       | T | 0.00554  |
| rs2747156  | 6 | 68371284       | T | 0.01244  |
| rs2818113  | 6 | 68398350       | A | 0.01392  |
| rs2179964  | 6 | 68414245       | G | 0.01647  |
| rs9342657  | 6 | 68421587       | C | 0.00322  |
| rs2816902  | 6 | 68428695       | C | 0.00876  |
| rs2818105  | 6 | 68428791       | G | 0.01655  |
| rs17546195 | 6 | 68444789       | C | 0.01652  |
| rs2493374  | 6 | 68454951       | G | 0.00969  |
| rs9454233  | 6 | 68459204       | T | 0.00855  |
| rs9454286  | 6 | 68562671       | G | 0.00191  |
| rs12203654 | 6 | 68563436       | C | 0.00900  |
| rs6913371  | 6 | 68565666       | G | 0.00773  |
| rs1913477  | 6 | 68583232       | A | 0.01215  |
| rs1913478  | 6 | 68583437       | C | 0.00924  |
| rs7753361  | 6 | 68857216       | A | 0.00531  |
| rs          | Chr | Gene              | Allele | Minor Allele Frequency |
|------------|-----|------------------|--------|------------------------|
| rs1388056  | 6   | 69233497         | A      | 0.00292                |
| rs10455670 | 6   | 69347352         | T      | 0.01526                |
| rs13218370 | 6   | 69349961         | T      | 0.01589                |
| rs577328   | 6   | 69598052         | G      | 0.00226                |
| rs6455313  | 6   | 70195288         | T      | 0.01450                |
| rs2487399  | 6   | 70594155         | T      | 0.01630                |
| rs2487411  | 6   | 70605345         | T      | 0.01467                |
| rs2487412  | 6   | 70605431         | T      | 0.00689                |
| rs9342783  | 6   | 70909214         | A      | 0.00525                |
| rs3806051  | 6   | 70943464         | A      | 0.01425                |
| rs9354910  | 6   | 71025381         | G      | 0.00218                |
| rs12198920 | 6   | 71364068         | A      | 0.00775                |
| rs12204236 | 6   | 72298055         | A      | 0.01611                |
| rs12525003 | 6   | 72304069         | T      | 0.01087                |
| rs1339226  | 6   | 73113269         | A      | 0.00126                |
| rs1317538  | 6   | 73706132         | C      | 0.01605                |
| rs12199142 | 6   | 74353856         | G      | 0.01231                |
| rs527606   | 6   | 74402893         | A      | 0.00025                |
| rs9293938  | 6   | 74481076         | A      | 0.01155                |
| rs2882694  | 6   | 74574401         | G      | 0.00750                |
| rs10498896 | 6   | 74645033         | C      | 0.00189                |
| rs41475845 | 6   | 74647350         | G      | 0.00569                |
| rs10805983 | 6   | 74663429         | G      | 0.01580                |
| rs12194928 | 6   | 74665814         | G      | 0.01245                |
| rs1898483  | 6   | 74667157         | G      | 0.01447                |
| rs12194422 | 6   | 74731052         | G      | 0.01100                |
| rs9343135  | 6   | 75088407         | A      | 0.00136                |
| rs6902731  | 6   | 75274664         | A      | 0.01394                |
| rs2181246  | 6   | 76600038         | A      | 0.00136                |
| rs6903025  | 6   | 76955639         | C      | 0.00803                |
| rs10943324 | 6   | 77034073         | A      | 0.00286                |
| rs1457936  | 6   | 77422822         | G      | 0.00959                |
| rs16888579 | 6   | 77860206         | C      | 0.00069                |
| rs9343603  | 6   | 78098265         | G      | 0.01403                |
| rs1458429  | 6   | 78283839         | T      | 0.01600                |
| rs1458424  | 6   | 78373630         | G      | 0.00763                |
| rs3846758  | 6   | 78459796         | T      | 0.01564                |
| rs7764370  | 6   | 78642548         | A      | 0.01587                |
| rs580694   | 6   | 79456568         | C      | 0.00048                |
| rs1354832  | 6   | 79670482         | G      | 0.00798                |
| rs3846733  | 6   | 80143211         | G      | 0.00711                |
| rs9343912  | 6   | 80203374         | A      | 0.01189                |
| rs2812683  | 6   | 80380553         | A      | 0.00061                |
| rs2655697  | 6   | 80382049         | G      | 0.01346                |
| SNP   | Chromosome | Position  | Allele | p-value |
|-------|------------|-----------|--------|---------|
| rs2322633 | 6         | 80902708  | T      | 0.00552 |
| rs3805901 | 6         | 81034459  | T      | 0.01143 |
| rs660888  | 6         | 81039931  | A      | 0.00169 |
| rs9449206 | 6         | 81753270  | T      | 0.01010 |
| rs1855586 | 6         | 81983371  | C      | 0.01624 |
| rs7744820 | 6         | 81994601  | T      | 0.00441 |
| rs9361775 | 6         | 82004634  | G      | 0.00749 |
| rs16893194| 6         | 82304961  | G      | 0.01233 |
| rs1935003 | 6         | 82325403  | T      | 0.00261 |
| rs1361684 | 6         | 82729246  | A      | 0.01296 |
| rs4546539 | 6         | 83284979  | G      | 0.01651 |
| rs11756746| 6         | 84343196  | G      | 0.00376 |
| rs3757007 | 6         | 84365081  | T      | 0.01377 |
| rs13212099| 6         | 84356900  | G      | 0.01195 |
| rs772909  | 6         | 84536430  | T      | 0.01316 |
| rs9341974 | 6         | 85129893  | A      | 0.01539 |
| rs7761054 | 6         | 85130696  | C      | 0.00429 |
| rs7760461 | 6         | 85140975  | C      | 0.00367 |
| rs944171  | 6         | 85172697  | T      | 0.01090 |
| rs215936  | 6         | 85547923  | G      | 0.01360 |
| rs215921  | 6         | 85573317  | A      | 0.00037 |
| rs1407645 | 6         | 85689704  | T      | 0.00564 |
| rs1923587 | 6         | 85821656  | T      | 0.01418 |
| rs1325975 | 6         | 85875339  | C      | 0.01115 |
| rs2484355 | 6         | 86451122  | T      | 0.00607 |
| rs6454487 | 6         | 86503587  | A      | 0.01141 |
| rs9450333 | 6         | 86576474  | G      | 0.00826 |
| rs6933377 | 6         | 86761974  | C      | 0.01101 |
| rs6940217 | 6         | 86955183  | G      | 0.00427 |
| rs7760257 | 6         | 86970480  | C      | 0.00506 |
| rs7758230 | 6         | 87040157  | A      | 0.00512 |
| rs1983841 | 6         | 87856604  | T      | 0.00727 |
| rs242291  | 6         | 88133802  | A      | 0.00133 |
| rs4383780 | 6         | 88637308  | C      | 0.01649 |
| rs1940893 | 6         | 88716726  | A      | 0.00063 |
| rs9362482 | 6         | 89093239  | G      | 0.00467 |
| rs12207463| 6         | 89264237  | T      | 0.00354 |
| rs205217  | 6         | 89805824  | A      | 0.00180 |
| rs205216  | 6         | 89805908  | T      | 0.00708 |
| rs1980986 | 6         | 89818726  | T      | 0.01361 |
| rs2304895 | 6         | 90687853  | T      | 0.01055 |
| rs9353711 | 6         | 90759159  | G      | 0.00800 |
| rs1353227 | 6         | 91233622  | G      | 0.00964 |
| rs10944489| 6         | 91320814  | A      | 0.00297 |
| SNP       | Chromosome | Position   | Allele | Minor Allele Frequency |
|-----------|------------|------------|--------|------------------------|
| rs282427  | 6          | 91367576   | A      | 0.00633                |
| rs1504292 | 6          | 91694410   | G      | 0.00859                |
| rs17535234| 6          | 91780559   | T      | 0.01287                |
| rs4707664 | 6          | 92020480   | C      | 0.00606                |
| rs12211588| 6          | 92394128   | C      | 0.01022                |
| rs598218  | 6          | 92451486   | A      | 0.00613                |
| rs2501650 | 6          | 92589899   | T      | 0.00519                |
| rs2454268 | 6          | 92617314   | G      | 0.00984                |
| rs16884981| 6          | 92622135   | A      | 0.00461                |
| rs9354041 | 6          | 94544526   | G      | 0.00907                |
| rs9354042 | 6          | 94544579   | A      | 0.01653                |
| rs9351380 | 6          | 94544635   | T      | 0.01526                |
| rs9363117 | 6          | 94586660   | A      | 0.01122                |
| rs6941459 | 6          | 94593345   | T      | 0.00605                |
| rs1937357 | 6          | 94676185   | T      | 0.01375                |
| rs1219033 | 6          | 94690716   | T      | 0.01399                |
| rs4632320 | 6          | 94741047   | C      | 0.01072                |
| rs401519  | 6          | 94980747   | G      | 0.00929                |
| rs220970  | 6          | 95037294   | C      | 0.00524                |
| rs397178  | 6          | 95050803   | A      | 0.00489                |
| rs7753594 | 6          | 95081989   | A      | 0.01510                |
| rs9400893 | 6          | 96144620   | A      | 0.00342                |
| rs9489578 | 6          | 96171771   | C      | 0.01198                |
| rs9386310 | 6          | 96636840   | T      | 0.00122                |
| rs4133133 | 6          | 96742188   | T      | 0.01593                |
| rs9374023 | 6          | 97200016   | C      | 0.01111                |
| rs11153105| 6          | 97207722   | G      | 0.01351                |
| rs12663742| 6          | 97899456   | T      | 0.01456                |
| rs200808  | 6          | 98011949   | T      | 0.01603                |
| rs1933721 | 6          | 98419944   | G      | 0.01328                |
| rs9387768 | 6          | 98423600   | T      | 0.00338                |
| rs6927923 | 6          | 98666847   | A      | 0.00335                |
| rs158773  | 6          | 99056271   | C      | 0.01349                |
| rs2219958 | 6          | 99165730   | T      | 0.00692                |
| rs4839969 | 6          | 99242193   | G      | 0.01373                |
| rs4131463 | 6          | 99364552   | G      | 0.01091                |
| rs2604065 | 6          | 99408232   | T      | 0.01312                |
| rs9968876 | 6          | 100194003  | C      | 0.00670                |
| rs705593  | 6          | 101401010  | T      | 0.01251                |
| rs2209936 | 6          | 101683037  | T      | 0.00873                |
| rs4840195 | 6          | 102359490  | G      | 0.00666                |
| rs9377315 | 6          | 102409621  | C      | 0.01142                |
| SNP     | Chromosome | Position   | Allele | P-value |
|---------|------------|------------|--------|---------|
| rs6905533 | 6       | 102439699  | T      | 0.00451 |
| rs946860  | 6       | 102526006  | T      | 0.00389 |
| rs13195038 | 6     | 102570833  | G      | 0.00003 |
| rs13191478 | 6      | 102577470  | A      | 0.00338 |
| rs6571078  | 6      | 103604602  | A      | 0.01182 |
| rs9373682  | 6      | 103694496  | A      | 0.00869 |
| rs41491945 | 6      | 103700073  | G      | 0.01250 |
| rs10782355 | 6      | 103895546  | T      | 0.00746 |
| rs17064013 | 6     | 103946380  | G      | 0.01268 |
| rs9391057  | 6      | 104118930  | A      | 0.00763 |
| rs4518532  | 6      | 104277456  | A      | 0.01314 |
| rs9499840  | 6      | 104869866  | A      | 0.01553 |
| rs946860   | 6      | 105161737  | T      | 0.00692 |
| rs949921   | 6      | 105243945  | C      | 0.00935 |
| rs6928554  | 6      | 105439613  | C      | 0.00582 |
| rs17065778 | 6      | 105856960  | G      | 0.00450 |
| rs716490   | 6      | 105924171  | G      | 0.00831 |
| rs6938669  | 6      | 106506341  | T      | 0.00182 |
| rs6937414  | 6      | 106576584  | T      | 0.00492 |
| rs17558797 | 6      | 106639239  | G      | 0.00833 |
| rs6920944  | 6      | 106744268  | A      | 0.01563 |
| rs1769981  | 6      | 106808927  | A      | 0.00072 |
| rs2297971  | 6      | 107110137  | G      | 0.01180 |
| rs4523123  | 6      | 107132119  | T      | 0.00996 |
| rs1739759  | 6      | 107409502  | A      | 0.01644 |
| rs9398133  | 6      | 107972837  | G      | 0.00020 |
| rs846962   | 6      | 108075191  | C      | 0.01396 |
| rs4945782  | 6      | 108089658  | A      | 0.01282 |
| rs4945783  | 6      | 108106634  | A      | 0.00338 |
| rs4945784  | 6      | 108106656  | A      | 0.00701 |
| rs217537   | 6      | 108618709  | C      | 0.01545 |
| rs2253310  | 6      | 108995286  | C      | 0.01492 |
| rs2490272  | 6      | 109002079  | A      | 0.01412 |
| rs1268165  | 6      | 109115071  | A      | 0.00705 |
| rs541020   | 6      | 109190725  | G      | 0.00235 |
| rs497961   | 6      | 109192329  | C      | 0.00825 |
| rs7772602  | 6      | 109715354  | G      | 0.00748 |
| rs1111866  | 6      | 109717539  | C      | 0.01382 |
| rs1111865  | 6      | 109717556  | G      | 0.01534 |
| rs4601178  | 6      | 109717939  | C      | 0.01458 |
| rs1028244  | 6      | 109748980  | A      | 0.00177 |
| rs2024850  | 6      | 109925149  | T      | 0.01331 |
| rs749517   | 6      | 109959609  | G      | 0.01539 |
| rs829816   | 6      | 110103836  | T      | 0.00582 |
| SNP       | Chromosome | Position      | Allele | p-value |
|-----------|------------|---------------|--------|---------|
| rs739516  | 6          | 110971876     | C      | 0.00054 |
| rs2691171 | 6          | 111084663     | G      | 0.00651 |
| rs471043  | 6          | 112407171     | T      | 0.00775 |
| rs1828520 | 6          | 113023720     | C      | 0.00849 |
| rs2346531 | 6          | 113053163     | A      | 0.01640 |
| rs1707416 | 6          | 113064010     | A      | 0.01308 |
| rs4945480 | 6          | 113227546     | G      | 0.00002 |
| rs7763553 | 6          | 113571263     | A      | 0.00698 |
| rs471043  | 6          | 113611708     | G      | 0.00792 |
| rs774414  | 6          | 113696384     | T      | 0.01279 |
| rs2049924 | 6          | 113858994     | A      | 0.01433 |
| rs1707538 | 6          | 114131902     | C      | 0.00479 |
| rs9320480 | 6          | 114570167     | G      | 0.00007 |
| rs786141  | 6          | 114980551     | A      | 0.00014 |
| rs786147  | 6          | 115006803     | G      | 0.01103 |
| rs9481463 | 6          | 115073292     | G      | 0.00389 |
| rs1568536 | 6          | 115129127     | T      | 0.01431 |
| rs1431817 | 6          | 115524039     | A      | 0.00080 |
| rs6940934 | 6          | 115746754     | A      | 0.01289 |
| rs6918482 | 6          | 115760753     | T      | 0.00557 |
| rs1266238 | 6          | 115764504     | T      | 0.00319 |
| rs195468  | 6          | 116320936     | T      | 0.00559 |
| rs7775839 | 6          | 116927839     | C      | 0.00607 |
| rs647689  | 6          | 117187923     | A      | 0.00558 |
| rs1220847 | 6          | 117679296     | G      | 0.01396 |
| rs2778    | 6          | 117716222     | C      | 0.00130 |
| rs1115365 | 6          | 117830157     | T      | 0.00934 |
| rs1151051 | 6          | 117957911     | G      | 0.00533 |
| rs2134088 | 6          | 117970381     | A      | 0.01137 |
| rs1266406 | 6          | 118170752     | C      | 0.00168 |
| rs1338980 | 6          | 118325563     | A      | 0.01445 |
| rs1416413 | 6          | 118392873     | C      | 0.00799 |
| rs743928  | 6          | 118588504     | G      | 0.00781 |
| rs1733616 | 6          | 118611443     | A      | 0.00862 |
| rs9489407 | 6          | 118899030     | A      | 0.00087 |
| rs902779  | 6          | 119107286     | A      | 0.01498 |
| rs794854  | 6          | 119139019     | C      | 0.01235 |
| rs9372511 | 6          | 119139756     | A      | 0.00820 |
| rs1175122 | 6          | 119178364     | T      | 0.00306 |
| rs1048538 | 6          | 119195037     | T      | 0.00949 |
| rs4946403 | 6          | 119554684     | A      | 0.00445 |
| rs4945637 | 6          | 119789644     | A      | 0.00340 |
| rs9285434 | 6          | 120062213     | T      | 0.00770 |
| rs1087218 | 6          | 120129329     | A      | 0.01182 |
| SNP          | Chr | Position   | Allele | P-value |
|--------------|-----|------------|--------|---------|
| rs4945648    | 6   | 120135566  | T      | 0.01234 |
| rs1028961    | 6   | 120271168  | G      | 0.01199 |
| rs7751474    | 6   | 120426953  | T      | 0.00059 |
| rs261771     | 6   | 120560384  | C      | 0.00255 |
| rs4946518    | 6   | 121216502  | C      | 0.01510 |
| rs1273725    | 6   | 121487048  | T      | 0.01247 |
| rs1273745    | 6   | 121506710  | G      | 0.00909 |
| rs699412     | 6   | 122646418  | T      | 0.01149 |
| rs1273725    | 6   | 122779358  | T      | 0.00696 |
| rs3778348    | 6   | 122779968  | A      | 0.00032 |
| rs9490567    | 6   | 123231090  | G      | 0.00421 |
| rs9490568    | 6   | 123231169  | T      | 0.00824 |
| rs1890467    | 6   | 123681714  | G      | 0.00585 |
| rs9490885    | 6   | 124072450  | T      | 0.01196 |
| rs6569367    | 6   | 124207957  | C      | 0.00882 |
| rs6907236    | 6   | 124288046  | A      | 0.01609 |
| rs163286     | 6   | 124503145  | A      | 0.01594 |
| rs9491202    | 6   | 124976157  | G      | 0.00298 |
| rs868549     | 6   | 125068862  | A      | 0.01237 |
| rs2875776    | 6   | 125081311  | G      | 0.00996 |
| rs1415762    | 6   | 125081641  | A      | 0.01036 |
| rs9375382    | 6   | 125360914  | C      | 0.00741 |
| rs41523048   | 6   | 125386212  | C      | 0.00182 |
| rs11154383   | 6   | 127467150  | A      | 0.01242 |
| rs2800708    | 6   | 127479310  | G      | 0.00472 |
| rs9482771    | 6   | 127488303  | C      | 0.01626 |
| rs7759507    | 6   | 127588720  | T      | 0.00276 |
| rs17460940   | 6   | 128854778  | T      | 0.00480 |
| rs17461290   | 6   | 128870929  | A      | 0.00335 |
| rs1508453    | 6   | 129171964  | C      | 0.01327 |
| rs7738996    | 6   | 129430224  | T      | 0.00136 |
| rs6569580    | 6   | 129430959  | G      | 0.00885 |
| rs4327720    | 6   | 129444415  | A      | 0.01628 |
| rs6569625    | 6   | 130099903  | A      | 0.00475 |
| rs9321220    | 6   | 130667329  | A      | 0.01044 |
| rs9492764    | 6   | 131308759  | C      | 0.00796 |
| rs1332492    | 6   | 131392971  | G      | 0.01152 |
| rs17182683   | 6   | 131503269  | A      | 0.00479 |
| rs2608935    | 6   | 131831429  | T      | 0.01628 |
| rs9285474    | 6   | 133915179  | A      | 0.00371 |
| rs7452066    | 6   | 133983767  | C      | 0.01532 |
| rs6907934    | 6   | 134003067  | A      | 0.01034 |
| rs9321410    | 6   | 134039826  | A      | 0.00995 |
| rs7772416    | 6   | 134800173  | A      | 0.01427 |
| SNP       | Chromosome | Position | Allele | p-value |
|-----------|------------|----------|--------|---------|
| rs1040637 | 6          | 134865612| C      | 0.00000 |
| rs9389215 | 6          | 135101251| G      | 0.00490 |
| rs9389225 | 6          | 135113491| C      | 0.00774 |
| rs6902872 | 6          | 135128716| C      | 0.00315 |
| rs1196449 | 6          | 135811382| G      | 0.01255 |
| rs9376148 | 6          | 136140193| G      | 0.00490 |
| rs9389225 | 6          | 135113491| C      | 0.00774 |
| rs6902872 | 6          | 135128716| C      | 0.00315 |
| rs1196449 | 6          | 135811382| G      | 0.01255 |
| rs9376148 | 6          | 136140193| G      | 0.00490 |
| rs9389225 | 6          | 135113491| C      | 0.00774 |
| rs6902872 | 6          | 135128716| C      | 0.00315 |
| rs1196449 | 6          | 135811382| G      | 0.01255 |
| rs9376148 | 6          | 136140193| G      | 0.00490 |
| rs9389225 | 6          | 135113491| C      | 0.00774 |
| rs6902872 | 6          | 135128716| C      | 0.00315 |
| rs1196449 | 6          | 135811382| G      | 0.01255 |
| rs9376148 | 6          | 136140193| G      | 0.00490 |
| rs9389225 | 6          | 135113491| C      | 0.00774 |
| rs6902872 | 6          | 135128716| C      | 0.00315 |
| rs1196449 | 6          | 135811382| G      | 0.01255 |
| rs9376148 | 6          | 136140193| G      | 0.00490 |
| rs9389225 | 6          | 135113491| C      | 0.00774 |
| rs6902872 | 6          | 135128716| C      | 0.00315 |
| rs1196449 | 6          | 135811382| G      | 0.01255 |
| rs9376148 | 6          | 136140193| G      | 0.00490 |
| rs9389225 | 6          | 135113491| C      | 0.00774 |
| rs6902872 | 6          | 135128716| C      | 0.00315 |
| rs1196449 | 6          | 135811382| G      | 0.01255 |
| rs9376148 | 6          | 136140193| G      | 0.00490 |
| rs9389225 | 6          | 135113491| C      | 0.00774 |
| rs6902872 | 6          | 135128716| C      | 0.00315 |
| rs1196449 | 6          | 135811382| G      | 0.01255 |
| rs9376148 | 6          | 136140193| G      | 0.00490 |
| rs9389225 | 6          | 135113491| C      | 0.00774 |
| rs6902872 | 6          | 135128716| C      | 0.00315 |
| rs1196449 | 6          | 135811382| G      | 0.01255 |
| SNP     | Chrom. | Position   | Allele 1 | Allele 2 | P-value |
|---------|--------|------------|----------|----------|---------|
| rs7762250 | 6      | 144516757  | G        |          | 0.01084 |
| rs4895642  | 6      | 144800492  | A        |          | 0.00140 |
| rs10499231 | 6      | 144903639  | T        |          | 0.00093 |
| rs1918744  | 6      | 144960512  | T        |          | 0.00690 |
| rs9403569  | 6      | 144970410  | C        |          | 0.00760 |
| rs6917204  | 6      | 145326409  | G        |          | 0.01323 |
| rs9403498  | 6      | 145649688  | A        |          | 0.00798 |
| rs362949   | 6      | 146694047  | C        |          | 0.00633 |
| rs9322090  | 6      | 147450332  | C        |          | 0.00337 |
| rs452577   | 6      | 147858688  | A        |          | 0.00151 |
| rs12192149 | 6      | 148128121  | G        |          | 0.01419 |
| rs1881825  | 6      | 148417762  | T        |          | 0.00584 |
| rs7764264  | 6      | 148451024  | T        |          | 0.00703 |
| rs2493926  | 6      | 148655960  | C        |          | 0.00351 |
| rs9403983  | 6      | 149096970  | A        |          | 0.01381 |
| rs17718177 | 6      | 149130447  | C        |          | 0.01026 |
| rs6570915  | 6      | 149320200  | G        |          | 0.00252 |
| rs5024811  | 6      | 150287727  | A        |          | 0.00817 |
| rs4242282  | 6      | 150315039  | G        |          | 0.00025 |
| rs9383690  | 6      | 150502499  | C        |          | 0.00276 |
| rs670914   | 6      | 150724036  | C        |          | 0.00275 |
| rs9384557  | 6      | 150899065  | G        |          | 0.00052 |
| rs1494310  | 6      | 151162803  | G        |          | 0.00885 |
| rs7746473  | 6      | 151759227  | C        |          | 0.00707 |
| rs3800270  | 6      | 151785755  | G        |          | 0.01241 |
| rs1709182  | 6      | 152217050  | T        |          | 0.01625 |
| rs9340955  | 6      | 152371894  | C        |          | 0.01145 |
| rs750686   | 6      | 152449819  | T        |          | 0.00622 |
| rs6940845  | 6      | 152609138  | A        |          | 0.00899 |
| rs7776230  | 6      | 152685563  | G        |          | 0.00770 |
| rs1873176  | 6      | 152732252  | A        |          | 0.01193 |
| rs7747960  | 6      | 152833167  | A        |          | 0.00061 |
| rs583501   | 6      | 153237927  | G        |          | 0.01411 |
| rs656610   | 6      | 153259954  | T        |          | 0.01187 |
| rs633399   | 6      | 153261967  | T        |          | 0.01544 |
| rs672170   | 6      | 153386878  | A        |          | 0.01637 |
| rs12529269 | 6      | 153585523  | C        |          | 0.01496 |
| rs10485060 | 6      | 154557793  | C        |          | 0.01213 |
| rs17214592 | 6      | 154612099  | A        |          | 0.00768 |
| rs946236   | 6      | 154845575  | T        |          | 0.00718 |
| SNP          | Chr | Position   | Alt | P-value |
|--------------|-----|------------|-----|---------|
| rs9397210    | 6   | 155297981  | T   | 0.00058 |
| rs9371355    | 6   | 155300670  | C   | 0.01035 |
| rs9322500    | 6   | 155486416  | T   | 0.01498 |
| rs4870382    | 6   | 156030258  | A   | 0.01194 |
| rs6900173    | 6   | 156560217  | C   | 0.01241 |
| rs9371421    | 6   | 156722024  | G   | 0.00781 |
| rs9322500    | 6   | 157012153  | G   | 0.00159 |
| rs6933871    | 6   | 157257433  | T   | 0.00079 |
| rs16900494   | 6   | 158231773  | G   | 0.00898 |
| rs1246188    | 6   | 158491694  | C   | 0.01636 |
| rs6930880    | 6   | 160498261  | C   | 0.01180 |
| rs3016563    | 6   | 160785609  | G   | 0.00062 |
| rs9365261    | 6   | 160991202  | A   | 0.00292 |
| rs427072     | 6   | 161478088  | G   | 0.00325 |
| rs2932987    | 6   | 161993412  | T   | 0.00515 |
| rs294922     | 6   | 161993412  | A   | 0.00584 |
| rs6930880    | 6   | 162056149  | T   | 0.01420 |
| rs3016563    | 6   | 162112846  | T   | 0.00674 |
| rs6455617    | 6   | 162656326  | T   | 0.01277 |
| rs7740928    | 6   | 162656490  | G   | 0.01615 |
| rs6930880    | 6   | 162666349  | A   | 0.00237 |
| rs10945825   | 6   | 162728999  | G   | 0.01192 |
| rs2849527    | 6   | 163037922  | T   | 0.01479 |
| rs9365480    | 6   | 163040991  | A   | 0.00625 |
| rs1877771    | 6   | 163238470  | T   | 0.01382 |
| rs1122118    | 6   | 164586141  | A   | 0.00458 |
| rs9918342    | 6   | 164909859  | C   | 0.00839 |
| rs551950     | 6   | 165508597  | G   | 0.00188 |
| rs566759     | 6   | 165835911  | C   | 0.01351 |
| rs1575145    | 6   | 16646556   | A   | 0.01059 |
| rs763186     | 6   | 166875955  | G   | 0.00529 |
| rs16899278   | 6   | 166976063  | C   | 0.00210 |
| rs   | Position   | Allele | p-value |
|------|------------|--------|---------|
| rs2881194 | 6 | 167187909 | G | 0.00288 |
| rs2282859  | 6 | 167365129  | T | 0.00606 |
| rs16899825 | 6 | 167371516  | A | 0.00953 |
| rs4710183  | 6 | 167434073  | A | 0.01078 |
| rs975822   | 6 | 167436448  | C | 0.00148 |
| rs6907666  | 6 | 167443385  | A | 0.00603 |
| rs2021033  | 6 | 167444229  | C | 5.74600 |
| rs6456158  | 6 | 167448022  | C | 0.01538 |
| rs4708575  | 6 | 169147997  | A | 0.00908 |
| rs12175557 | 6 | 169234624  | A | 0.01492 |
| rs6908401  | 6 | 169306641  | A | 0.00227 |
| rs12661910 | 6 | 169326313  | G | 0.01007 |
| rs2075978  | 6 | 169554513  | A | 0.00772 |
| rs4469299  | 6 | 169559926  | G | 0.00186 |
| rs9383492  | 6 | 169677487  | A | 0.00229 |
| rs16888111 | 6 | 169677751  | T | 0.01519 |
| rs760950   | 6 | 169694673  | G | 0.00039 |
| rs6456189  | 6 | 170396431  | T | 0.01439 |
| rs1022615  | 6 | 170525166  | G | 0.01579 |
| rs9460139  | 6 | 170554104  | A | 0.00569 |
| rs4244215  | 7 | 215541     | T | 0.00753 |
| rs7785538  | 7 | 828052     | G | 0.01406 |
| rs11766365 | 7 | 829331     | G | 0.00692 |
| rs6973278  | 7 | 832995     | C | 0.00041 |
| rs7785252  | 7 | 868920     | C | 0.01613 |
| rs1639915  | 7 | 2224610    | G | 0.00013 |
| rs2969070  | 7 | 2479071    | C | 0.00884 |
| rs2527684  | 7 | 2792448    | G | 0.01313 |
| rs2644295  | 7 | 2826743    | A | 0.00481 |
| rs6958161  | 7 | 3121336    | G | 0.00858 |
| rs10951052 | 7 | 3121827    | A | 0.01454 |
| rs4722438  | 7 | 3122339    | G | 11.67100 |
| rs6956298  | 7 | 3158180    | G | 0.01287 |
| rs2049477  | 7 | 3279396    | G | 0.00392 |
| rs41363846 | 7 | 3412717    | G | 0.00917 |
| rs17741019 | 7 | 3423822    | C | 0.00026 |
| rs2178628  | 7 | 3580193    | A | 0.01201 |
| rs13236719 | 7 | 3841536    | A | 0.01233 |
| rsID   | Chromosome | Position   | Allele | MAF   |
|--------|------------|------------|--------|-------|
| rs6462411 | 7          | 3882090    | G      | 0.01259 |
| rs1025915 | 7          | 4000087    | G      | 0.00690 |
| rs2189973 | 7          | 4299801    | A      | 0.00490 |
| rs1447397 | 7          | 4509826    | G      | 0.01367 |
| rs10951714 | 7         | 4913403    | T      | 0.00262 |
| rs4320451 | 7          | 5123397    | A      | 0.00490 |
| rs2189973 | 7          | 4299801    | A      | 0.00490 |
| rs1447397 | 7          | 4509826    | G      | 0.01367 |
| rs10951714 | 7         | 4913403    | T      | 0.00262 |
| rs4320451 | 7          | 5123397    | A      | 0.00490 |
| rs2189973 | 7          | 4299801    | A      | 0.00490 |
| rs1447397 | 7          | 4509826    | G      | 0.01367 |
| rs10951714 | 7         | 4913403    | T      | 0.00262 |
| rs4320451 | 7          | 5123397    | A      | 0.00490 |
| rs2189973 | 7          | 4299801    | A      | 0.00490 |
| rs1447397 | 7          | 4509826    | G      | 0.01367 |
| rs10951714 | 7         | 4913403    | T      | 0.00262 |
| rs4320451 | 7          | 5123397    | A      | 0.00490 |
| rs2189973 | 7          | 4299801    | A      | 0.00490 |
| rs1447397 | 7          | 4509826    | G      | 0.01367 |
| rs10951714 | 7         | 4913403    | T      | 0.00262 |
| rs4320451 | 7          | 5123397    | A      | 0.00490 |
| rs2189973 | 7          | 4299801    | A      | 0.00490 |
| rs1447397 | 7          | 4509826    | G      | 0.01367 |
| rs10951714 | 7         | 4913403    | T      | 0.00262 |
| rs4320451 | 7          | 5123397    | A      | 0.00490 |
| rs2189973 | 7          | 4299801    | A      | 0.00490 |
| rs1447397 | 7          | 4509826    | G      | 0.01367 |
| rs10951714 | 7         | 4913403    | T      | 0.00262 |
| rs4320451 | 7          | 5123397    | A      | 0.00490 |
| rs2189973 | 7          | 4299801    | A      | 0.00490 |
| rs1447397 | 7          | 4509826    | G      | 0.01367 |
| rs10951714 | 7         | 4913403    | T      | 0.00262 |
| rs4320451 | 7          | 5123397    | A      | 0.00490 |
| rs2189973 | 7          | 4299801    | A      | 0.00490 |
| rs1447397 | 7          | 4509826    | G      | 0.01367 |
| rs10951714 | 7         | 4913403    | T      | 0.00262 |
| rs4320451 | 7          | 5123397    | A      | 0.00490 |
| rs2189973 | 7          | 4299801    | A      | 0.00490 |
| rs1447397 | 7          | 4509826    | G      | 0.01367 |
| rs10951714 | 7         | 4913403    | T      | 0.00262 |
| rs4320451 | 7          | 5123397    | A      | 0.00490 |
| SNP        | Chromosome | Position   | Value | p-value |
|------------|------------|------------|-------|---------|
| rs4720876  | 7          | 10339966   | T     | 0.00792 |
| rs6463990  | 7          | 10344828   | G     | 0.00509 |
| rs7794021  | 7          | 11364881   | G     | 12.20000|
| rs1468244  | 7          | 11431856   | C     | 0.00512 |
| rs1014184  | 7          | 11468053   | C     | 0.00051 |
| rs17165507 | 7          | 12019983   | C     | 0.01406 |
| rs12536861 | 7          | 12085773   | A     | 0.00051 |
| rs17165896 | 7          | 12409567   | T     | 0.01607 |
| rs17166041 | 7          | 12473257   | T     | 0.01066 |
| rs17166013 | 7          | 12495699   | G     | 0.00852 |
| rs986861   | 7          | 13845989   | T     | 0.00448 |
| rs219060   | 7          | 14083642   | C     | 0.00485 |
| rs34628921 | 7          | 14423427   | A     | 0.01005 |
| rs196751   | 7          | 14443632   | T     | 0.00467 |
| rs7806004  | 7          | 14590429   | A     | 0.01322 |
| rs4236282  | 7          | 14670939   | T     | 0.01036 |
| rs975689   | 7          | 14837929   | C     | 0.01108 |
| rs36658    | 7          | 14931688   | G     | 4.38100 |
| rs779124   | 7          | 15021214   | G     | 0.00824 |
| rs218078   | 7          | 15049059   | G     | 0.00343 |
| rs12672546 | 7          | 15096179   | T     | 0.00695 |
| rs758297   | 7          | 15673970   | A     | 0.00067 |
| rs37417    | 7          | 15751248   | T     | 0.01307 |
| rs11772541 | 7          | 16520773   | A     | 0.00793 |
| rs10228487 | 7          | 16558354   | G     | 0.01395 |
| rs17627078 | 7          | 16707805   | A     | 0.00268 |
| rs2389827  | 7          | 17627791   | T     | 0.00458 |
| rs12699903 | 7          | 17739744   | G     | 0.00733 |
| rs2723497  | 7          | 17792353   | T     | 0.01224 |
| rs2723501  | 7          | 17821057   | A     | 0.01430 |
| rs4544985  | 7          | 17950332   | C     | 0.01346 |
| rs801763   | 7          | 18567890   | A     | 0.00975 |
| rs17352682 | 7          | 19009877   | C     | 0.00932 |
| rs6967671  | 7          | 19353457   | A     | 0.01270 |
| rs9639329  | 7          | 19366356   | T     | 0.00283 |
| rs2190413  | 7          | 19924911   | A     | 0.01326 |
| rs13237702 | 7          | 19928899   | C     | 0.00398 |
| rs38151    | 7          | 20015540   | C     | 0.01281 |
| rs1558310  | 7          | 20315252   | G     | 0.00182 |
| rs     | Ch | BP       | Allele | P     |
|--------|----|----------|--------|-------|
| 3807945 | 7  | 20382351 | T      | 0.01335 |
| 17143128 | 7  | 20591415 | T      | 0.01340 |
| 10950819 | 7  | 20600261 | T      | 0.00821 |
| 12669250 | 7  | 20649972 | C      | 0.00577 |
| 6461521  | 7  | 20911047 | A      | 0.00435 |
| 2700300  | 7  | 21259201 | A      | 0.00978 |
| 17144727 | 7  | 21596214 | G      | 0.00435 |
| 2965396  | 7  | 21694856 | C      | 0.00567 |
| 10256021 | 7  | 21768403 | T      | 0.00289 |
| 13225921 | 7  | 22024102 | A      | 0.01115 |
| 1859742  | 7  | 22357645 | G      | 0.01160 |
| 2905324  | 7  | 22675528 | C      | 0.01085 |
| 4722173  | 7  | 22753341 | A      | 0.00571 |
| 12536091 | 7  | 22794725 | C      | 0.00483 |
| 2286498  | 7  | 22824029 | T      | 0.00375 |
| 10232205 | 7  | 23197079 | C      | 0.00122 |
| 274047   | 7  | 23350222 | G      | 0.00092 |
| 10950957 | 7  | 23729805 | G      | 0.00472 |
| 6957981  | 7  | 23859818 | A      | 0.00320 |
| 7792262  | 7  | 23882268 | T      | 0.00030 |
| 17148510 | 7  | 23922398 | A      | 0.01663 |
| 7780155  | 7  | 23924393 | C      | 0.00988 |
| 1859289  | 7  | 24139848 | G      | 0.00166 |
| 198712   | 7  | 24147580 | C      | 0.00956 |
| 156318   | 7  | 24179881 | G      | 0.01193 |
| 156308   | 7  | 24184522 | A      | 0.01146 |
| 16217    | 7  | 24224231 | G      | 0.00409 |
| 17149415 | 7  | 24409011 | A      | 0.01058 |
| 2521757  | 7  | 24728194 | T      | 0.01514 |
| 11974649 | 7  | 24940525 | T      | 0.00314 |
| 10252578 | 7  | 25332075 | A      | 0.01371 |
| 6946189  | 7  | 25966662 | A      | 0.00801 |
| 4722557  | 7  | 25986081 | T      | 0.00451 |
| 17322608 | 7  | 26075962 | A      | 0.01463 |
| 7807030  | 7  | 26183975 | T      | 0.01635 |
| 10259620 | 7  | 27168814 | A      | 0.01275 |
| 10951169 | 7  | 27522439 | T      | 0.01238 |
| 3823945  | 7  | 27839643 | T      | 0.00930 |
| 11981911 | 7  | 27854539 | T      | 0.00416 |
| 11763181 | 7  | 27951583 | A      | 0.00666 |
| 7801967  | 7  | 28211820 | T      | 0.01272 |
| 17717216 | 7  | 28448949 | T      | 0.01583 |
| 6977204  | 7  | 28460970 | A      | 0.00074 |
| SNP       | Chr | Position  | Allele | Minor Allele Frequency |
|-----------|-----|-----------|--------|------------------------|
| rs35010731 | 7   | 28759930  | G      | 0.00736                |
| rs4722842  | 7   | 28766752  | A      | 0.01191                |
| rs35910392 | 7   | 28784337  | G      | 0.00586                |
| rs4722855  | 7   | 28805091  | C      | 0.01468                |
| rs6977628  | 7   | 28811671  | A      | 0.00748                |
| rs4722858  | 7   | 28845849  | A      | 0.00660                |
| rs768229   | 7   | 28857274  | A      | 0.00366                |
| rs506511   | 7   | 29032843  | G      | 0.00413                |
| rs10486610 | 7   | 29222954  | C      | 0.01080                |
| rs39077    | 7   | 29245037  | T      | 0.00036                |
| rs7779958  | 7   | 29315941  | T      | 0.00011                |
| rs3828983  | 7   | 29448465  | A      | 0.00900                |
| rs3857731  | 7   | 29458573  | A      | 0.00892                |
| rs7781003  | 7   | 29483175  | G      | 0.00472                |
| rs7782556  | 7   | 29517235  | G      | 0.00098                |
| rs17158518 | 7   | 29938482  | G      | 0.00601                |
| rs17158543 | 7   | 29949671  | T      | 0.00325                |
| rs10260668 | 7   | 30146934  | A      | 0.01438                |
| rs10278661 | 7   | 31328137  | C      | 0.01539                |
| rs7812214  | 7   | 31362003  | A      | 0.01510                |
| rs6977919  | 7   | 31495133  | T      | 0.00251                |
| rs7803617  | 7   | 31515561  | G      | 0.00454                |
| rs10228992 | 7   | 31515779  | G      | 0.00108                |
| rs38327    | 7   | 31610170  | T      | 0.00271                |
| rs38379    | 7   | 31639395  | G      | 0.00335                |
| rs3735424  | 7   | 31658222  | C      | 0.00009                |
| rs1035028  | 7   | 31833575  | A      | 0.00799                |
| rs17336340 | 7   | 32014641  | A      | 0.00448                |
| rs30564    | 7   | 32034427  | C      | 0.01077                |
| rs17160851 | 7   | 32070157  | T      | 0.01588                |
| rs7803347  | 7   | 32235840  | C      | 0.00199                |
| rs12538506 | 7   | 32243806  | T      | 0.00048                |
| rs6955946  | 7   | 32322564  | G      | 0.00438                |
| rs7806498  | 7   | 33322149  | G      | 0.00858                |
| rs17790181 | 7   | 34853083  | G      | 0.01511                |
| rs10266513 | 7   | 35559637  | G      | 0.00716                |
| rs1717127  | 7   | 35834387  | G      | 0.00290                |
| rs2700910  | 7   | 36170522  | A      | 0.00089                |
| rs2726059  | 7   | 36194992  | G      | 0.01218                |
| rs1986877  | 7   | 36535036  | C      | 0.00126                |
| rs7787226  | 7   | 36817679  | G      | 0.01299                |
| rs1882082  | 7   | 36936199  | A      | 0.00286                |
| rs9655380  | 7   | 37313843  | T      | 0.00468                |
| rs2701003  | 7   | 37314747  | C      | 0.01008                |
| SNP          | Chromosome | Position     | Allele | p-value |
|--------------|------------|--------------|--------|---------|
| rs2724000    | 7          | 37399229     | C      | 0.00226 |
| rs7777579    | 7          | 37543199     | A      | 0.00566 |
| rs2598044    | 7          | 37856841     | T      | 0.00096 |
| rs1562829    | 7          | 37930141     | G      | 0.01480 |
| rs17171240   | 7          | 37991099     | C      | 0.00065 |
| rs2736947    | 7          | 38353316     | C      | 0.00625 |
| rs1558618    | 7          | 38407765     | G      | 0.01456 |
| rs2598044    | 7          | 37856841     | T      | 0.00096 |
| rs1562829    | 7          | 37930141     | G      | 0.01480 |
| rs17171240   | 7          | 37991099     | C      | 0.00065 |
| rs2736947    | 7          | 38353316     | C      | 0.00625 |
| rs1558618    | 7          | 38407765     | G      | 0.01456 |
| rs2598044    | 7          | 37856841     | T      | 0.00096 |
| rs1562829    | 7          | 37930141     | G      | 0.01480 |
| rs17171240   | 7          | 37991099     | C      | 0.00065 |
| rs2736947    | 7          | 38353316     | C      | 0.00625 |
| rs1558618    | 7          | 38407765     | G      | 0.01456 |
| rs2598044    | 7          | 37856841     | T      | 0.00096 |
| rs1562829    | 7          | 37930141     | G      | 0.01480 |
| rs17171240   | 7          | 37991099     | C      | 0.00065 |
| rs2736947    | 7          | 38353316     | C      | 0.00625 |
| rs1558618    | 7          | 38407765     | G      | 0.01456 |
| rs2598044    | 7          | 37856841     | T      | 0.00096 |
| rs1562829    | 7          | 37930141     | G      | 0.01480 |
| rs17171240   | 7          | 37991099     | C      | 0.00065 |
| rs2736947    | 7          | 38353316     | C      | 0.00625 |
| rs1558618    | 7          | 38407765     | G      | 0.01456 |
| rs2598044    | 7          | 37856841     | T      | 0.00096 |
| rs1562829    | 7          | 37930141     | G      | 0.01480 |
| rs17171240   | 7          | 37991099     | C      | 0.00065 |
| rs2736947    | 7          | 38353316     | C      | 0.00625 |
| rs1558618    | 7          | 38407765     | G      | 0.01456 |
| rs2598044    | 7          | 37856841     | T      | 0.00096 |
| rs1562829    | 7          | 37930141     | G      | 0.01480 |
| rs17171240   | 7          | 37991099     | C      | 0.00065 |
| rs2736947    | 7          | 38353316     | C      | 0.00625 |
| rs1558618    | 7          | 38407765     | G      | 0.01456 |
| rs2598044    | 7          | 37856841     | T      | 0.00096 |
| rs1562829    | 7          | 37930141     | G      | 0.01480 |
| rs17171240   | 7          | 37991099     | C      | 0.00065 |
| rs2736947    | 7          | 38353316     | C      | 0.00625 |
| rs1558618    | 7          | 38407765     | G      | 0.01456 |
| rs2598044    | 7          | 37856841     | T      | 0.00096 |
|  rs             | Chromosome | Genomic Location | Allele | p-value |
|-----------------|------------|------------------|--------|---------|
| rs10245153      | 7          | 47009631         | T      | 0.00502 |
| rs12533855      | 7          | 47043330         | G      | 0.01255 |
| rs7801951       | 7          | 47106004         | A      | 0.01185 |
| rs2728472       | 7          | 47199448         | A      | 0.00815 |
| rs17172850      | 7          | 47308808         | A      | 0.01325 |
| rs7787946       | 7          | 47756443         | A      | 0.00246 |
| rs17659868      | 7          | 47839126         | C      | 0.00753 |
| rs10499672      | 7          | 48059930         | C      | 0.01511 |
| rs7803787       | 7          | 48060754         | T      | 0.00738 |
| rs10280481      | 7          | 48471207         | T      | 0.00273 |
| rs4403359       | 7          | 49137610         | T      | 0.01079 |
| rs12718242      | 7          | 50123913         | A      | 0.00705 |
| rs17634369      | 7          | 50536835         | C      | 0.01415 |
| rs4947934       | 7          | 50871640         | A      | 0.00920 |
| rs984450        | 7          | 50892690         | C      | 0.00631 |
| rs17134354      | 7          | 51662186         | T      | 0.01030 |
| rs7791504       | 7          | 51697174         | T      | 2.42000 |
| rs17580955      | 7          | 51776473         | G      | 0.01476 |
| rs10488099      | 7          | 51780004         | C      | 0.01088 |
| rs7785376       | 7          | 51923383         | A      | 0.00831 |
| rs387130        | 7          | 51999593         | A      | 0.00843 |
| rs417184        | 7          | 52003163         | A      | 0.01279 |
| rs6947141       | 7          | 52296516         | C      | 0.00256 |
| rs1837904       | 7          | 52573340         | C      | 0.00789 |
| rs1404883       | 7          | 53120423         | A      | 0.00331 |
| rs1852158       | 7          | 53175560         | G      | 0.01121 |
| rs1548000       | 7          | 53517374         | A      | 0.00027 |
| rs17695021      | 7          | 53582894         | T      | 0.01084 |
| rs17564776      | 7          | 54855553         | A      | 0.01647 |
| rs6962925       | 7          | 54872385         | A      | 0.00522 |
| rs6593195       | 7          | 54931888         | G      | 0.01411 |
| rs17583407      | 7          | 54933847         | G      | 0.00094 |
| rs4947957       | 7          | 54998998         | T      | 0.00914 |
| rs2030807       | 7          | 55345979         | G      | 0.01015 |
| rs2177807       | 7          | 55358496         | G      | 0.01620 |
| rs6593233       | 7          | 55373694         | C      | 0.00127 |
| rs11764362      | 7          | 55571119         | A      | 0.01342 |
| rs4948051       | 7          | 55655594         | A      | 0.00148 |
| rs698645        | 7          | 56189309         | A      | 0.00017 |
| rs17748612      | 7          | 62120851         | C      | 0.00422 |
| rs1153014       | 7          | 62910986         | A      | 0.01506 |
| rs10949880      | 7          | 63308111         | T      | 0.00183 |
| rs2164110       | 7          | 63328963         | A      | 0.00530 |
| Variant   | Chromosome Position | Allele | P-value |
|-----------|---------------------|--------|---------|
| rs687547  | 7 63382364          | G      | 0.01511 |
| rs10949887| 7 63389515          | T      | 0.01157 |
| rs17768351| 7 63393541          | A      | 0.01658 |
| rs10949909| 7 63473967          | A      | 0.00376 |
| rs12530839| 7 63480341          | T      | 0.01649 |
| rs34764583| 7 63606271          | C      | 0.01041 |
| rs1917563 | 7 65053082          | T      | 0.00077 |
| rs6946143 | 7 65217157          | C      | 0.00622 |
| rs10950029| 7 65271756          | A      | 0.00267 |
| rs12530839| 7 63480341          | T      | 0.01649 |
| rs34764583| 7 63606271          | C      | 0.01041 |
| rs1917563 | 7 65053082          | T      | 0.00077 |
| rs6946143 | 7 65217157          | C      | 0.00622 |
| rs10950029| 7 65271756          | A      | 0.00267 |
| rs12530839| 7 63480341          | T      | 0.01649 |
| rs34764583| 7 63606271          | C      | 0.01041 |
| rs1917563 | 7 65053082          | T      | 0.00077 |
| rs6946143 | 7 65217157          | C      | 0.00622 |
| rs10950029| 7 65271756          | A      | 0.00267 |
| rs12530839| 7 63480341          | T      | 0.01649 |
| rs34764583| 7 63606271          | C      | 0.01041 |
| rs1917563 | 7 65053082          | T      | 0.00077 |
| rs6946143 | 7 65217157          | C      | 0.00622 |
| rs10950029| 7 65271756          | A      | 0.00267 |
| rs12530839| 7 63480341          | T      | 0.01649 |
| rs34764583| 7 63606271          | C      | 0.01041 |
| rs1917563 | 7 65053082          | T      | 0.00077 |
| rs6946143 | 7 65217157          | C      | 0.00622 |
| rs10950029| 7 65271756          | A      | 0.00267 |
| rs12530839| 7 63480341          | T      | 0.01649 |
| rs34764583| 7 63606271          | C      | 0.01041 |
| rs1917563 | 7 65053082          | T      | 0.00077 |
| rs6946143 | 7 65217157          | C      | 0.00622 |
| rs10950029| 7 65271756          | A      | 0.00267 |
| rs12530839| 7 63480341          | T      | 0.01649 |
| rs34764583| 7 63606271          | C      | 0.01041 |
| rs1917563 | 7 65053082          | T      | 0.00077 |
| rs6946143 | 7 65217157          | C      | 0.00622 |
| rs10950029| 7 65271756          | A      | 0.00267 |
| rs12530839| 7 63480341          | T      | 0.01649 |
| SNP          | Chromosome | Position       | Allele | p-value |
|--------------|------------|----------------|--------|---------|
| rs17149367   | 7          | 77624277       | A      | 0.00072 |
| rs12536887   | 7          | 77710003       | T      | 0.01226 |
| rs10485886   | 7          | 77895776       | C      | 0.00845 |
| rs11525066   | 7          | 78013913       | T      | 0.01455 |
| rs17372719   | 7          | 78028121       | C      | 0.01383 |
| rs521311     | 7          | 78305657       | G      | 0.01275 |
| rs7782585    | 7          | 78722211       | A      | 0.00174 |
| rs10499845   | 7          | 79158483       | T      | 0.01340 |
| rs6966238    | 7          | 79551009       | T      | 0.01361 |
| rs306709     | 7          | 79732430       | T      | 0.00678 |
| rs17260734   | 7          | 79981291       | T      | 0.00594 |
| rs17260769   | 7          | 79981364       | C      | 0.01037 |
| rs763479     | 7          | 80659147       | A      | 0.00125 |
| rs6961599    | 7          | 80944560       | T      | 0.00032 |
| rs7786648    | 7          | 81080173       | C      | 0.00553 |
| rs17155272   | 7          | 81086746       | T      | 0.01109 |
| rs10257186   | 7          | 81617435       | A      | 0.00162 |
| rs17264194   | 7          | 81813537       | C      | 0.01445 |
| rs2368021    | 7          | 81821560       | A      | 0.00011 |
| rs6975142    | 7          | 81855385       | T      | 0.00037 |
| rs13438494   | 7          | 82226650       | T      | 0.01526 |
| rs34608268   | 7          | 82233177       | C      | 0.01441 |
| rs10954689   | 7          | 82240309       | C      | 0.00761 |
| rs7795945    | 7          | 82322986       | C      | 0.01541 |
| rs1986742    | 7          | 82341378       | C      | 0.01587 |
| rs1557784    | 7          | 82682474       | C      | 0.00392 |
| rs2709890    | 7          | 82883620       | T      | 0.01612 |
| rs533887     | 7          | 83136139       | T      | 0.00636 |
| rs17216863   | 7          | 83194778       | C      | 0.00977 |
| rs17158535   | 7          | 83502065       | A      | 0.01085 |
| rs12669854   | 7          | 83543343       | T      | 0.01029 |
| rs520536     | 7          | 83802374       | C      | 8.26600 |
| rs1236923    | 7          | 83939710       | C      | 0.00434 |
| rs4728560    | 7          | 84197220       | G      | 0.00468 |
| rs11764839   | 7          | 84281713       | C      | 0.01318 |
| rs12672643   | 7          | 84291220       | T      | 0.00423 |
| rs4395839    | 7          | 84291612       | T      | 0.00068 |
| rs7799648    | 7          | 84341515       | T      | 0.01044 |
| rs1013264    | 7          | 84658419       | G      | 0.01335 |
| rs1911993    | 7          | 85285979       | T      | 0.00779 |
| rs10280835   | 7          | 85368185       | T      | 0.01570 |
| rs17313775   | 7          | 85436441       | G      | 0.01303 |
| rs17316106 | 7 | 85509840 | T | 0.01594 |
| rs12704280 | 7 | 86079324 | G | 0.01457 |
| rs2888551  | 7 | 86225947 | G | 0.01413 |
| rs17160978 | 7 | 86243244 | T | 0.00102 |
| rs17161024 | 7 | 86298766 | G | 0.01582 |
| rs10952891 | 7 | 86305187 | C | 0.01570 |
| rs6946119  | 7 | 86966801 | C | 0.01319 |
| rs2282949  | 7 | 87471440 | A | 0.00441 |
| rs10268574 | 7 | 87606110 | C | 0.01160 |
| rs916849   | 7 | 87784913 | A | 0.00821 |
| rs181097   | 7 | 87922975 | G | 0.01150 |
| rs10237276 | 7 | 88279872 | T | 0.01477 |
| rs6465247  | 7 | 89662413 | G | 0.00601 |
| rs11563560 | 7 | 89698381 | C | 0.00551 |
| rs194534   | 7 | 89709068 | G | 0.01030 |
| rs2040514  | 7 | 89763497 | A | 0.00684 |
| rs7796430  | 7 | 90203764 | A | 0.00056 |
| rs10281519 | 7 | 90749760 | T | 0.00463 |
| rs1209001  | 7 | 91278295 | T | 0.00531 |
| rs2269811  | 7 | 91347487 | G | 0.00514 |
| rs403      | 7 | 91379438 | T | 0.01083 |
| rs10488509 | 7 | 91455027 | G | 0.00150 |
| rs11769780 | 7 | 91694752 | T | 0.01437 |
| rs12740    | 7 | 91867238 | A | 0.00703 |
| rs4729068  | 7 | 92516838 | G | 0.00198 |
| rs6971944  | 7 | 92553794 | C | 0.00657 |
| rs2528552  | 7 | 93117418 | T | 0.00966 |
| rs13229259 | 7 | 93440637 | G | 0.00664 |
| rs726820   | 7 | 93449846 | T | 0.00915 |
| rs10953111 | 7 | 93783391 | A | 0.00987 |
| rs12704838 | 7 | 95713592 | C | 0.00660 |
| rs12536064 | 7 | 95854947 | A | 0.00944 |
| rs10953178 | 7 | 95968574 | C | 0.00973 |
| rs6465528  | 7 | 96053584 | C | 0.00234 |
| rs2272225  | 7 | 96146957 | A | 0.01254 |
| rs10486858 | 7 | 96378364 | G | 0.00095 |
| rs6956369  | 7 | 96453948 | T | 0.01273 |
| rs4480045  | 7 | 96736110 | G | 0.00412 |
| rs2394625  | 7 | 96806264 | G | 0.01059 |
| rs2525549  | 7 | 99371047 | T | 0.01539 |
| rs16869529 | 7 | 101523084 | G | 0.00646 |
| rs10953363 | 7 | 101811250 | T | 0.01531 |
| rs17475512 | 7 | 102299724 | G | 0.01467 |
| rs10487172 | 7 | 103189479 | G | 0.01299 |
| SNP          | Chromosome | Position | Reference | Minor | p-value |
|--------------|------------|----------|-----------|-------|---------|
| rs13233763   | 7          | 103271612| A         | 0.00993|
| rs2283034    | 7          | 103305285| G         | 0.00053|
| rs10487180   | 7          | 103406534| A         | 0.00621|
| rs12539921   | 7          | 103480415| T         | 0.01292|
| rs4730006    | 7          | 103825729| A         | 0.00747|
| rs17639782   | 7          | 104401900| A         | 0.00654|
| rs2299305    | 7          | 104578311| G         | 0.00624|
| rs10487180   | 7          | 103406534| A         | 0.00621|
| rs12539921   | 7          | 103480415| T         | 0.01292|
| rs4730006    | 7          | 103825729| A         | 0.00747|
| rs17639782   | 7          | 104401900| A         | 0.00654|
| rs2299305    | 7          | 104578311| G         | 0.00624|
| rs10487180   | 7          | 103406534| A         | 0.00621|
| rs12539921   | 7          | 103480415| T         | 0.01292|
| rs4730006    | 7          | 103825729| A         | 0.00747|
| rs17639782   | 7          | 104401900| A         | 0.00654|
| rs2299305    | 7          | 104578311| G         | 0.00624|
| rs10487180   | 7          | 103406534| A         | 0.00621|
| rs12539921   | 7          | 103480415| T         | 0.01292|
| rs4730006    | 7          | 103825729| A         | 0.00747|
| rs17639782   | 7          | 104401900| A         | 0.00654|
| rs2299305    | 7          | 104578311| G         | 0.00624|
| rs10487180   | 7          | 103406534| A         | 0.00621|
| rs12539921   | 7          | 103480415| T         | 0.01292|
| rs4730006    | 7          | 103825729| A         | 0.00747|
| rs17639782   | 7          | 104401900| A         | 0.00654|
| rs2299305    | 7          | 104578311| G         | 0.00624|
| rs10487180   | 7          | 103406534| A         | 0.00621|
| rs12539921   | 7          | 103480415| T         | 0.01292|
| rs4730006    | 7          | 103825729| A         | 0.00747|
| rs17639782   | 7          | 104401900| A         | 0.00654|
| rs2299305    | 7          | 104578311| G         | 0.00624|
| rs10487180   | 7          | 103406534| A         | 0.00621|
| rs12539921   | 7          | 103480415| T         | 0.01292|
| rs4730006    | 7          | 103825729| A         | 0.00747|
| rs17639782   | 7          | 104401900| A         | 0.00654|
| rs2299305    | 7          | 104578311| G         | 0.00624|
| rs10487180   | 7          | 103406534| A         | 0.00621|
| rs12539921   | 7          | 103480415| T         | 0.01292|
| rs4730006    | 7          | 103825729| A         | 0.00747|
| rs17639782   | 7          | 104401900| A         | 0.00654|
| rs2299305    | 7          | 104578311| G         | 0.00624|
| rs10487180   | 7          | 103406534| A         | 0.00621|
| rs12539921   | 7          | 103480415| T         | 0.01292|
| rs4730006    | 7          | 103825729| A         | 0.00747|
| rs17639782   | 7          | 104401900| A         | 0.00654|
| rs2299305    | 7          | 104578311| G         | 0.00624|
| rs10487180   | 7          | 103406534| A         | 0.00621|
| rs12539921   | 7          | 103480415| T         | 0.01292|
| SNP ID       | Chromosome | Position | Allele | p-value |
|--------------|------------|----------|--------|---------|
| rs11487118   | 7          | 118571989| C      | 0.01279 |
| rs7805413    | 7          | 119754163| C      | 0.00370 |
| rs10257987   | 7          | 120012531| T      | 0.01611 |
| rs9886190    | 7          | 120018452| G      | 0.01153 |
| rs2049643    | 7          | 120018941| C      | 0.01333 |
| rs10277086   | 7          | 120022020| G      | 0.00577 |
| rs2244863    | 7          | 120410072| C      | 0.00690 |
| rs4731007    | 7          | 120691895| C      | 0.01434 |
| rs2707461    | 7          | 120774586| C      | 0.01661 |
| rs2536163    | 7          | 120790146| G      | 0.01651 |
| rs12706408   | 7          | 121768078| T      | 0.01603 |
| rs10268368   | 7          | 122127346| T      | 0.00798 |
| rs1308711    | 7          | 122415221| A      | 0.00877 |
| rs1266974    | 7          | 122979210| T      | 0.01056 |
| rs17146118   | 7          | 122997918| T      | 0.00228 |
| rs619575     | 7          | 123180696| C      | 0.01603 |
| rs17703063   | 7          | 123291556| C      | 0.00682 |
| rs2191277    | 7          | 123581273| C      | 0.01365 |
| rs1600739    | 7          | 12426842 | A      | 0.00312 |
| rs13244183   | 7          | 124673162| G      | 0.00231 |
| rs10500106   | 7          | 124779451| T      | 0.01442 |
| rs12706650   | 7          | 124782413| G      | 0.00393 |
| rs10808221   | 7          | 124817406| C      | 0.01147 |
| rs11766248   | 7          | 124817455| T      | 0.01225 |
| rs17148961   | 7          | 125215105| A      | 0.00864 |
| rs6979193    | 7          | 125371603| T      | 0.00263 |
| rs12706717   | 7          | 125527081| G      | 0.01500 |
| rs7792592    | 7          | 126083177| G      | 0.00935 |
| rs10487483   | 7          | 126861374| G      | 0.00140 |
| rs10273635   | 7          | 126945593| C      | 0.01091 |
| rs698408     | 7          | 127133172| T      | 0.01622 |
| rs12667197   | 7          | 127156383| T      | 0.01420 |
| rs2241291    | 7          | 127426110| G      | 0.01175 |
| rs1451006    | 7          | 127637891| T      | 0.00046 |
| rs2060715    | 7          | 127686365| A      | 6.74300 |
| rs1495458    | 7          | 128390228| A      | 0.01571 |
| rs12155080   | 7          | 128445975| C      | 0.00110 |
| rs13223151   | 7          | 128916976| C      | 0.01049 |
| rs17164742   | 7          | 129645173| T      | 0.00506 |
| rs10954264   | 7          | 129664510| C      | 0.01563 |
| rs9641869    | 7          | 129703266| C      | 0.00713 |
| rs13221321   | 7          | 130544382| T      | 0.01151 |
| rs10272488   | 7          | 130971372| G      | 0.01563 |
| rs10257021   | 7          | 130971538| G      | 0.00510 |
| SNP        | Chromosome | Position | Allele | P-value |
|------------|------------|----------|--------|---------|
| rs2971772  | 7          | 131058210| G      | 0.00410 |
| rs1106683  | 7          | 131104065| T      | 0.00950 |
| rs1106684  | 7          | 131104205| C      | 0.01495 |
| rs4535659  | 7          | 131104596| A      | 0.00359 |
| rs10954327 | 7          | 131108546| G      | 0.00648 |
| rs9656405  | 7          | 131165524| A      | 0.01320 |
| rs1106684  | 7          | 131104205| C      | 0.01495 |
| rs4535659  | 7          | 131104596| A      | 0.00359 |
| rs10954327 | 7          | 131108546| G      | 0.00648 |
| SNP        | Chromosome | Position   | Minor Allele | Minor Allele Frequency |
|------------|------------|------------|--------------|------------------------|
| rs11769346 | 7          | 138017544  | G            | 0.00085                |
| rs878992   | 7          | 138169323  | T            | 0.00741                |
| rs1638196  | 7          | 138920471  | G            | 0.01604                |
| rs9719540  | 7          | 139021084  | G            | 0.00090                |
| rs2270163  | 7          | 139135304  | A            | 0.00570                |
| rs4726499  | 7          | 139334473  | G            | 0.01648                |
| rs6464779  | 7          | 139804299  | C            | 0.00731                |
| rs10216203 | 7          | 139814627  | A            | 0.00491                |
| rs1639945  | 7          | 139909578  | G            | 0.00174                |
| rs6464123  | 7          | 140218579  | G            | 0.00725                |
| rs11762469 | 7          | 140260681  | A            | 0.00620                |
| rs553046   | 7          | 140422870  | C            | 0.00913                |
| rs491554   | 7          | 140423083  | T            | 0.00375                |
| rs7799561  | 7          | 140678009  | G            | 0.00119                |
| rs6955319  | 7          | 140733168  | C            | 0.00083                |
| rs4726453  | 7          | 140810387  | A            | 0.00362                |
| rs3020838  | 7          | 141555389  | C            | 0.00769                |
| rs361487   | 7          | 141726987  | C            | 0.01134                |
| rs7776874  | 7          | 142035507  | A            | 0.00482                |
| rs476826   | 7          | 142616556  | C            | 0.00472                |
| rs6948526  | 7          | 142727117  | T            | 0.00393                |
| rs4076124  | 7          | 142765004  | T            | 0.00252                |
| rs2966712  | 7          | 142872245  | G            | 0.00458                |
| rs7804359  | 7          | 143497465  | C            | 0.00826                |
| rs6967058  | 7          | 143844410  | G            | 0.00124                |
| rs17170146 | 7          | 143910061  | A            | 0.01180                |
| rs10487634 | 7          | 143918753  | C            | 0.01292                |
| rs4329196  | 7          | 143931363  | T            | 0.01626                |
| rs17171057 | 7          | 144116314  | G            | 0.00997                |
| rs2692379  | 7          | 144254322  | C            | 0.01072                |
| rs10500148 | 7          | 144306637  | C            | 0.01583                |
| rs1468375  | 7          | 144655445  | T            | 0.00143                |
| rs757797   | 7          | 144768973  | G            | 0.00880                |
| rs850503   | 7          | 144938746  | T            | 0.01278                |
| rs850465   | 7          | 144962441  | C            | 0.00722                |
| rs1917648  | 7          | 145364455  | G            | 0.01505                |
| rs965003   | 7          | 145677377  | G            | 0.00658                |
| rs6978796  | 7          | 145743361  | T            | 0.01087                |
| rs347216   | 7          | 145957748  | A            | 0.00197                |
| rs1881723  | 7          | 147588565  | G            | 0.00465                |
| rs10952742 | 7          | 147597745  | G            | 0.00856                |
| rs1104853  | 7          | 147631587  | C            | 0.01154                |
| rs1104852  | 7          | 147631751  | G            | 0.01169                |
| rs1177942  | 7          | 147690775  | T            | 0.01650                |
| SNP          | Chromosome | Base Position | Genotype | P-value |
|--------------|------------|---------------|----------|---------|
| rs11773084   | 7          | 148089577     | G        | 0.01604 |
| rs2373414    | 7          | 148101252     | G        | 0.01296 |
| rs1558419    | 7          | 148111166     | C        | 0.00176 |
| rs740949     | 7          | 148136997     | T        | 0.01604 |
| rs2072408    | 7          | 148139130     | A        | 0.00184 |
| rs6464926    | 7          | 148149944     | C        | 0.00390 |
| rs1558419    | 7          | 148111166     | C        | 0.00176 |
| rs740949     | 7          | 148136997     | T        | 0.01604 |
| rs12704084   | 7          | 148545983     | G        | 0.00005 |
| rs1202397    | 7          | 148547560     | A        | 0.00549 |
| rs2448688    | 7          | 149478220     | T        | 0.01068 |
| rs7810209    | 7          | 149784746     | A        | 0.01430 |
| rs10277380   | 7          | 149861625     | A        | 0.01245 |
| rs10236188   | 7          | 149876189     | T        | 0.01497 |
| rs655483     | 7          | 150227241     | T        | 0.01195 |
| rs6944935    | 7          | 150357853     | G        | 0.01488 |
| rs11766855   | 7          | 150403850     | A        | 0.00246 |
| rs7795959    | 7          | 150707507     | T        | 0.00341 |
| rs17173202   | 7          | 150916094     | G        | 0.00836 |
| rs6464148    | 7          | 150916125     | T        | 0.01274 |
| rs1881634    | 7          | 151141504     | G        | 0.01363 |
| rs1568734    | 7          | 152166841     | A        | 0.00193 |
| rs11761769   | 7          | 152292559     | T        | 0.00536 |
| rs10277791   | 7          | 152368741     | G        | 0.00021 |
| rs4726244    | 7          | 152410914     | C        | 0.00422 |
| rs4346924    | 7          | 152484518     | A        | 0.00669 |
| rs10808002   | 7          | 152512297     | A        | 0.00219 |
| rs7780487    | 7          | 153642917     | A        | 0.00881 |
| rs17174407   | 7          | 153745398     | A        | 0.01453 |
| rs11770433   | 7          | 154004818     | A        | 0.01307 |
| rs12719718   | 7          | 154092898     | G        | 0.00930 |
| rs1525755    | 7          | 154215197     | T        | 0.01555 |
| rs7795325    | 7          | 154246349     | C        | 0.01420 |
| rs1529082    | 7          | 154577582     | G        | 0.01207 |
| rs7800026    | 7          | 154578004     | A        | 0.00375 |
| rs7785988    | 7          | 154878544     | T        | 0.00517 |
| rs1735004    | 7          | 155634639     | G        | 0.00682 |
| rs1181917    | 7          | 155645607     | G        | 0.00530 |
| rs12539207   | 7          | 156344327     | C        | 0.00175 |
| rs11979077   | 7          | 156441797     | G        | 0.00542 |
| rs10237246   | 7          | 157768381     | T        | 0.01423 |
| rs1597900    | 7          | 157774945     | C        | 0.00433 |
| rs4909173    | 7          | 157781757     | T        | 0.01495 |
| rs7800966    | 7          | 157782256     | A        | 0.01222 |
| rs6950401    | 7          | 157783490     | G        | 0.01523 |
| rsID          | Chromosome | Position | Allele | P-value |
|--------------|------------|----------|--------|---------|
| rs11769149   | 7          | 157919888| A      | 0.01604 |
| rs1670365    | 7          | 157950730| G      | 0.00467 |
| rs1733133    | 7          | 157957951| T      | 0.01411 |
| rs1632730    | 7          | 157958216| G      | 0.01568 |
| rs11774384   | 8          | 413694   | A      | 0.01563 |
| rs17065022   | 8          | 426230   | A      | 0.00518 |
| rs1075035    | 8          | 448148   | C      | 0.01351 |
| rs17065445   | 8          | 843443   | G      | 0.01559 |
| rs13259879   | 8          | 1584180  | A      | 0.00856 |
| rs1632730    | 8          | 157958216| G      | 0.01568 |
| rs11136437   | 8          | 1801549  | G      | 0.01457 |
| rs12681485   | 8          | 1834095  | A      | 0.01180 |
| rs7386814    | 8          | 1859902  | C      | 0.01348 |
| rs2272611    | 8          | 1864038  | G      | 0.00955 |
| rs17752483   | 8          | 2095060  | T      | 0.00467 |
| rs6981174    | 8          | 2100948  | A      | 0.00565 |
| rs17685416   | 8          | 2101199  | T      | 0.01233 |
| rs11990285   | 8          | 2106025  | C      | 0.00070 |
| rs17063040   | 8          | 2309171  | G      | 0.00387 |
| rs1378261    | 8          | 2646944  | G      | 0.00840 |
| rs724654     | 8          | 2675472  | G      | 0.00119 |
| rs12681676   | 8          | 2922345  | G      | 0.00414 |
| rs13263104   | 8          | 3114063  | G      | 0.01530 |
| rs6994942    | 8          | 3114891  | T      | 0.01561 |
| rs7008857    | 8          | 3115312  | C      | 0.00465 |
| rs7825521    | 8          | 3218353  | C      | 0.00915 |
| rs17323568   | 8          | 3430697  | G      | 0.01565 |
| rs1158563    | 8          | 3467652  | G      | 0.00745 |
| rs1383950    | 8          | 3575030  | A      | 0.00529 |
| rs4345580    | 8          | 3575173  | G      | 0.00597 |
| rs10102119   | 8          | 3657789  | T      | 0.00730 |
| rs17807654   | 8          | 3668924  | A      | 0.00482 |
| rs2554503    | 8          | 3812233  | C      | 0.01424 |
| rs2552159    | 8          | 3907186  | C      | 0.01353 |
| rs17068984   | 8          | 3945357  | G      | 0.00628 |
| rs5028014    | 8          | 4033014  | G      | 0.01115 |
| rs7013270    | 8          | 4043184  | A      | 0.01134 |
| rs11993860   | 8          | 4215491  | A      | 0.00187 |
| rs4875363    | 8          | 4431794  | T      | 0.01663 |
| rs11136803   | 8          | 4775885  | G      | 0.00190 |
| rs7832116    | 8          | 4830337  | G      | 0.00840 |
| rs7835703    | 8          | 4931447  | G      | 0.00510 |
| SNP          | Chromosome | Position     | Allele | Minor Allele Frequency |
|--------------|------------|--------------|--------|------------------------|
| rs4495448    | 8          | 5000841      | A      | 0.01520                |
| rs7818064    | 8          | 5001153      | G      | 0.01336                |
| rs10100560   | 8          | 5128734      | C      | 0.00376                |
| rs4552921    | 8          | 5143724      | C      | 0.00579                |
| rs7834162    | 8          | 5202059      | G      | 0.01209                |
| rs2527758    | 8          | 5408337      | C      | 0.00376                |
| rs17355285   | 8          | 5456765      | T      | 0.00109                |
| rs6985780    | 8          | 5524031      | C      | 0.01510                |
| rs890025     | 8          | 5927228      | A      | 0.01165                |
| rs2552238    | 8          | 6019053      | G      | 0.00039                |
| rs4997127    | 8          | 6092262      | G      | 0.00390                |
| rs4466421    | 8          | 6116508      | T      | 0.01483                |
| rs7827867    | 8          | 6123920      | T      | 0.01611                |
| rs17533728   | 8          | 6201007      | A      | 0.00016                |
| rs1984859    | 8          | 6376832      | G      | 0.00928                |
| rs7825811    | 8          | 6522454      | T      | 0.01182                |
| rs10108451   | 8          | 6549500      | C      | 0.00648                |
| rs2162152    | 8          | 6550411      | A      | 0.00968                |
| rs1365042    | 8          | 6557762      | G      | 0.00574                |
| rs2911976    | 8          | 6572293      | T      | 0.01050                |
| rs2980684    | 8          | 6573272      | T      | 0.00625                |
| rs2980683    | 8          | 6573287      | G      | 0.01202                |
| rs2928576    | 8          | 6587757      | A      | 0.00759                |
| rs2936507    | 8          | 6595480      | T      | 0.01380                |
| rs2928579    | 8          | 6597571      | A      | 0.01581                |
| rs2911970    | 8          | 6603381      | C      | 0.01170                |
| rs2980688    | 8          | 6603545      | A      | 0.00389                |
| rs2945839    | 8          | 8238782      | A      | 16.26300               |
| rs4840976    | 8          | 8401928      | T      | 0.01095                |
| rs13248096   | 8          | 8614886      | T      | 0.01030                |
| rs9329169    | 8          | 8728794      | G      | 0.00401                |
| rs4841058    | 8          | 8768326      | G      | 0.00976                |
| rs403245     | 8          | 8808383      | A      | 0.00979                |
| rs373204     | 8          | 8808812      | C      | 0.00337                |
| rs13250919   | 8          | 8912648      | G      | 0.00762                |
| rs6989707    | 8          | 8915922      | C      | 0.00771                |
| rs2100021    | 8          | 8950115      | C      | 0.00365                |
| rs17149797   | 8          | 9227381      | A      | 0.00475                |
| rs17149989   | 8          | 9308462      | G      | 0.01521                |
| rs17733293   | 8          | 9413354      | G      | 0.01012                |
| rs9644708    | 8          | 9638327      | G      | 0.00209                |
| rs471480     | 8          | 9849872      | T      | 0.01376                |
| rs814409     | 8          | 9970776      | A      | 0.00891                |
| rs9657539    | 8          | 10293089     | A      | 0.01090                |
| SNP          | Chromosome | Position  | Allele  | P-value |
|--------------|------------|-----------|---------|---------|
| rs12543042   | 8          | 10483112  | C       | 0.00387 |
| rs17152302   | 8          | 10657436  | T       | 0.00752 |
| rs10113332   | 8          | 10691571  | T       | 0.00575 |
| rs2245257    | 8          | 11137022  | G       | 0.00001 |
| rs7003840    | 8          | 11303541  | T       | 0.00503 |
| rs4841529    | 8          | 11322991  | C       | 0.00055 |
| rs7018402    | 8          | 11330445  | G       | 0.00540 |
| rs12114115   | 8          | 11336016  | C       | 0.01396 |
| rs2254891    | 8          | 11378539  | C       | 0.00778 |
| rs2409811    | 8          | 11585380  | T       | 0.00593 |
| rs4074208    | 8          | 12666865  | A       | 0.00720 |
| rs17817461   | 8          | 13314065  | G       | 0.00873 |
| rs7840376    | 8          | 13772572  | A       | 0.00069 |
| rs1365641    | 8          | 14177997  | C       | 0.00212 |
| rs7015616    | 8          | 14218917  | A       | 0.00101 |
| rs1461859    | 8          | 14431172  | C       | 0.00578 |
| rs1463994    | 8          | 14480611  | G       | 0.01600 |
| rs7010545    | 8          | 14515450  | G       | 0.01574 |
| rs4831619    | 8          | 14517871  | T       | 0.01174 |
| rs12547411   | 8          | 14519569  | G       | 0.00652 |
| rs1397293    | 8          | 14549919  | G       | 0.01663 |
| rs10503510   | 8          | 14568760  | A       | 0.00862 |
| rs12681897   | 8          | 14731549  | A       | 0.01363 |
| rs4602887    | 8          | 14763659  | A       | 0.01315 |
| rs268386     | 8          | 15076490  | C       | 0.00085 |
| rs17472351   | 8          | 15096243  | G       | 0.00119 |
| rs7838162    | 8          | 15246310  | T       | 0.00346 |
| rs352766     | 8          | 15689930  | C       | 0.01035 |
| rs2736017    | 8          | 15759096  | A       | 0.00247 |
| rs10096072   | 8          | 15995933  | T       | 0.00057 |
| rs7835305    | 8          | 16068755  | A       | 0.00589 |
| rs2163120    | 8          | 16155538  | C       | 0.01292 |
| rs4831814    | 8          | 16198679  | C       | 0.00171 |
| rs1094542    | 8          | 16492644  | A       | 0.00364 |
| rs17584028   | 8          | 16557658  | A       | 0.01198 |
| rs17123386   | 8          | 16561402  | T       | 0.01419 |
| rs6997598    | 8          | 16562352  | T       | 0.01618 |
| rs1368538    | 8          | 16592499  | G       | 0.01537 |
| rs1620255    | 8          | 16649761  | A       | 0.01450 |
| rs17585055   | 8          | 16723732  | C       | 0.00747 |
| rs2410441    | 8          | 16801933  | A       | 0.01417 |
| rs823580     | 8          | 16803309  | G       | 0.00404 |
| rs6990261    | 8          | 16907413  | T       | 0.00389 |
| rs2959634    | 8          | 17071223  | T       | 0.00587 |
| SNP         | Chromosome | Position | Allele  | P-value |
|-------------|------------|----------|---------|---------|
| rs4921744   | 8          | 17202683 | T       | 0.01028 |
| rs17590021  | 8          | 17551579 | C       | 0.01119 |
| rs209972    | 8          | 17595342 | G       | 0.01513 |
| rs2937891   | 8          | 17617387 | T       | 0.00751 |
| rs3739408   | 8          | 17657126 | A       | 0.01313 |
| rs3739407   | 8          | 17657155 | C       | 0.00148 |
| rs2653400   | 8          | 17782361 | G       | 0.01513 |
| rs2937891   | 8          | 17617387 | T       | 0.00751 |
| rs1473482   | 8          | 18641042 | T       | 0.00630 |
| rs6586769   | 8          | 18738489 | T       | 0.00214 |
| rs3898982   | 8          | 17905246 | A       | 0.00352 |
| rs7465287   | 8          | 17978145 | C       | 0.00862 |
| rs9325829   | 8          | 18354351 | T       | 0.00678 |
| rs12155557  | 8          | 18823979 | C       | 0.00994 |
| rs7016207   | 8          | 18977446 | T       | 0.00214 |
| rs4922001   | 8          | 19091623 | G       | 0.00916 |
| rs9325853   | 8          | 19156865 | C       | 0.01379 |
| rs7845057   | 8          | 19234037 | A       | 0.00063 |
| rs17128267  | 8          | 19257352 | C       | 0.00859 |
| rs17128272  | 8          | 19257994 | T       | 0.01538 |
| rs10503654  | 8          | 19260902 | C       | 0.01365 |
| rs6586833   | 8          | 19350542 | T       | 0.00225 |
| rs41332747  | 8          | 19454071 | T       | 0.00950 |
| rs13257337  | 8          | 19526378 | G       | 0.00971 |
| rs12549679  | 8          | 19627830 | A       | 0.00897 |
| rs17091182  | 8          | 19630705 | T       | 0.00164 |
| rs17091190  | 8          | 19630860 | T       | 0.00079 |
| rs13253777  | 8          | 20116050 | C       | 0.01494 |
| rs7010567   | 8          | 20627791 | T       | 0.00151 |
| rs2631923   | 8          | 21119952 | A       | 0.01165 |
| rs2610984   | 8          | 21224993 | C       | 0.00395 |
| rs4445224   | 8          | 22611014 | C       | 0.01383 |
| rs4872539   | 8          | 22632507 | T       | 0.01126 |
| rs4872540   | 8          | 22654926 | T       | 0.00103 |
| rs11991347  | 8          | 22699268 | G       | 0.01119 |
| rs17697763  | 8          | 23386484 | A       | 0.01642 |
| rs10866831  | 8          | 23524869 | T       | 0.01553 |
| rs1512268   | 8          | 23582408 | G       | 0.00393 |
| rs870033    | 8          | 24163410 | C       | 0.01185 |
| rs17052096  | 8          | 2442830  | A       | 0.00898 |
| rs12546913  | 8          | 24437265 | G       | 0.00042 |
| rs10099022  | 8          | 24566691 | C       | 0.01365 |
| rs7844382   | 8          | 24785810 | A       | 0.01128 |
| rs954257    | 8          | 25306684 | C       | 0.01375 |
| rs7815749   | 8          | 25700478 | A       | 0.00484 |
| rs            | Chr | Position       | Allele | p-Value   |
|---------------|-----|----------------|--------|-----------|
| rs7006125     | 8   | 25977877       | T      | 0.00076   |
| rs41461444    | 8   | 26033556       | C      | 0.00875   |
| rs17055486    | 8   | 26505328       | T      | 0.01152   |
| rs17055515    | 8   | 26527021       | T      | 0.00192   |
| rs4732626     | 8   | 26638230       | T      | 0.01415   |
| rs13261597    | 8   | 26684235       | C      | 0.01287   |
| rs6557991     | 8   | 27231225       | G      | 0.00063   |
| rs4149256     | 8   | 27455435       | C      | 0.00253   |
| rs2010776     | 8   | 27645946       | A      | 0.00207   |
| rs6987111     | 8   | 27656369       | A      | 0.01610   |
| rs6989156     | 8   | 27660469       | C      | 0.01542   |
| rs6989497     | 8   | 27688110       | T      | 0.01076   |
| rs10091671    | 8   | 27688059       | T      | 0.01410   |
| rs1460224     | 8   | 27694316       | C      | 0.01607   |
| rs4732754     | 8   | 27706347       | T      | 0.01552   |
| rs4732757     | 8   | 27725167       | C      | 0.01612   |
| rs17057911    | 8   | 27729323       | T      | 0.01605   |
| rs17057923    | 8   | 27729539       | A      | 0.01630   |
| rs7824383     | 8   | 27772520       | A      | 0.00636   |
| rs6558023     | 8   | 27787698       | A      | 0.00574   |
| rs10156256    | 8   | 28140500       | C      | 0.01565   |
| rs189509      | 8   | 28247625       | G      | 0.00797   |
| rs719926      | 8   | 29142682       | T      | 0.01350   |
| rs6558102     | 8   | 29152772       | G      | 0.00562   |
| rs16876410    | 8   | 30047602       | C      | 0.00864   |
| rs2938217     | 8   | 30239111       | T      | 0.00086   |
| rs2915595     | 8   | 30522359       | A      | 0.00570   |
| rs2978296     | 8   | 30694482       | C      | 0.00184   |
| rs323369      | 8   | 30845258       | G      | 0.00801   |
| rs323375      | 8   | 30850713       | C      | 0.00379   |
| rs11574238    | 8   | 31063745       | C      | 0.00332   |
| rs2737334     | 8   | 31113009       | C      | 0.00382   |
| rs2737339     | 8   | 31133012       | T      | 0.01511   |
| rs2737367     | 8   | 31167121       | G      | 0.01627   |
| rs2344801     | 8   | 31184184       | A      | 0.01256   |
| rs4733239     | 8   | 31264379       | T      | 0.01428   |
| rs7005168     | 8   | 31266000       | C      | 0.01637   |
| rs6980510     | 8   | 31266118       | G      | 0.01645   |
| rs17596255    | 8   | 31294142       | C      | 0.01405   |
| rs1546326     | 8   | 31764724       | A      | 0.00600   |
| rs10503896    | 8   | 32050583       | A      | 17.23800  |
| rs1947734     | 8   | 32057445       | A      | 0.01097   |
| rs16879099    | 8   | 32256855       | T      | 0.00798   |
| rs16879101    | 8   | 32256902       | T      | 0.01230   |
| SNP        | Chromosome | Position       | Major Allele | Minor Allele | Minor Allele Frequency |
|------------|------------|----------------|--------------|--------------|------------------------|
| rs1386438  | 8          | 32315085       | A            | T            | 0.01304                |
| rs17645692 | 8          | 32489443       | A            | G            | 0.00480                |
| rs13252799 | 8          | 32499495       | A            | G            | 0.00283                |
| rs6998559  | 8          | 32991625       | G            | A            | 0.00668                |
| rs6998432  | 8          | 33380259       | T            | A            | 0.00679                |
| rs10088476 | 8          | 34451364       | A            | G            | 0.01454                |
| rs7357540  | 8          | 34561583       | C            | A            | 0.01594                |
| rs4549767  | 8          | 34659005       | A            | G            | 0.01211                |
| rs13253799 | 8          | 34989100       | A            | G            | 0.00579                |
| rs6468300  | 8          | 34988743       | T            | A            | 0.00891                |
| rs1451359  | 8          | 35090913       | G            | A            | 0.00530                |
| rs12216854 | 8          | 35276445       | A            | G            | 0.00254                |
| rs10104759 | 8          | 35423940       | T            | A            | 0.00926                |
| rs7001739  | 8          | 35463388       | A            | G            | 0.00816                |
| rs10090689 | 8          | 35475675       | C            | G            | 0.01151                |
| rs4739412  | 8          | 35476016       | G            | A            | 0.00176                |
| rs12544168 | 8          | 35523949       | G            | A            | 6.68100                |
| rs983273   | 8          | 35534272       | G            | A            | 12.58500               |
| rs997084   | 8          | 35541296       | T            | G            | 0.00640                |
| rs2703872  | 8          | 36497057       | A            | T            | 0.01078                |
| rs10090112 | 8          | 36776986       | G            | A            | 0.01244                |
| rs12543523 | 8          | 36780844       | G            | A            | 0.00540                |
| rs680863   | 8          | 37305026       | C            | G            | 0.01306                |
| rs10087363 | 8          | 37466672       | C            | G            | 0.00006                |
| rs16887244 | 8          | 38150502       | G            | A            | 0.01445                |
| rs2288696  | 8          | 38405382       | C            | G            | 0.00174                |
| rs2604497  | 8          | 38592732       | C            | G            | 0.01421                |
| rs7816405  | 8          | 38671914       | T            | G            | 0.00131                |
| rs6988514  | 8          | 38923786       | G            | A            | 0.00532                |
| rs4527834  | 8          | 39121910       | T            | G            | 0.00911                |
| rs1376720  | 8          | 39613659       | A            | G            | 0.01505                |
| rs9643868  | 8          | 39639013       | A            | G            | 0.00277                |
| rs6988389  | 8          | 39640576       | T            | A            | 0.00223                |
| rs7821033  | 8          | 40047207       | A            | G            | 0.01216                |
| rs1688736  | 8          | 40062757       | C            | A            | 0.01346                |
| rs6474237  | 8          | 40181650       | G            | A            | 0.00174                |
| rs9643874  | 8          | 40322948       | A            | G            | 0.00137                |
| rs7826650  | 8          | 41651413       | G            | A            | 0.01567                |
| rs11784321 | 8          | 41733872       | C            | G            | 0.01157                |
| rs2974293  | 8          | 42488612       | T            | G            | 0.00770                |
| rs9643892  | 8          | 43198024       | A            | G            | 0.01621                |
| rs899853   | 8          | 43347778       | G            | A            | 0.01169                |
| rs4736856  | 8          | 43449355       | G            | A            | 0.00768                |
| rs7463484 | 8 | 43539989 | T | 0.00638 |
| rs7460686 | 8 | 43618302 | T | 0.00130 |
| rs10086987 | 8 | 48208696 | G | 0.00303 |
| rs8178258 | 8 | 48851919 | A | 0.00874 |
| rs7838570 | 8 | 49491077 | T | 0.00357 |
| rs900237 | 8 | 49758694 | T | 0.01056 |
| rs10108023 | 8 | 49880037 | T | 0.00816 |
| rs17527 | 8 | 50257567 | T | 0.00837 |
| rs4873330 | 8 | 50270223 | T | 0.01010 |
| rs7386188 | 8 | 50772493 | A | 0.00716 |
| rs10957894 | 8 | 51454425 | A | 0.00466 |
| rs16915106 | 8 | 51699950 | T | 0.01307 |
| rs2392742 | 8 | 51932422 | T | 0.00573 |
| rs4305894 | 8 | 52860781 | A | 0.01259 |
| rs1015213 | 8 | 53050094 | A | 0.01360 |
| rs192392 | 8 | 53094411 | C | 0.01502 |
| rs16917539 | 8 | 53304268 | G | 0.01007 |
| rs7461434 | 8 | 53338179 | C | 0.00716 |
| rs10087238 | 8 | 53896925 | G | 0.01107 |
| rs2625583 | 8 | 54043684 | T | 0.01373 |
| rs12541632 | 8 | 54065270 | T | 0.01332 |
| rs360973 | 8 | 54071219 | T | 0.01364 |
| rs4873692 | 8 | 54108723 | A | 0.00426 |
| rs894915 | 8 | 54141127 | G | 0.01521 |
| rs4873713 | 8 | 54163602 | A | 0.01320 |
| rs2376432 | 8 | 54166313 | C | 0.01401 |
| rs4873722 | 8 | 54169597 | G | 0.00817 |
| rs4873729 | 8 | 54191589 | C | 0.00412 |
| rs2717637 | 8 | 54201931 | C | 0.01399 |
| rs2553914 | 8 | 54268198 | G | 0.00208 |
| rs7007275 | 8 | 54269163 | T | 0.00448 |
| rs2098884 | 8 | 54343678 | C | 0.00501 |
| rs6986286 | 8 | 54479559 | A | 0.00709 |
| rs17398771 | 8 | 55495352 | T | 0.01088 |
| rs1072739 | 8 | 55576981 | C | 0.00648 |
| rs7821133 | 8 | 55646339 | G | 0.00158 |
| rs6991044 | 8 | 56071878 | C | 0.00822 |
| rs4307317 | 8 | 56073331 | G | 0.01631 |
| rs7009231 | 8 | 56279417 | A | 0.00853 |
| rs4737297 | 8 | 56382904 | G | 0.00713 |
| rs16921802 | 8 | 56501795 | C | 0.00169 |
| rsID       | Chromosome | Position   | Allele | P-Value |
|------------|------------|------------|--------|---------|
| rs6995177  | 8          | 56678140   | C      | 0.00959 |
| rs11777822 | 8          | 56849821   | A      | 0.00698 |
| rs16922296 | 8          | 56942219   | A      | 0.01505 |
| rs11985083 | 8          | 57015415   | C      | 0.00366 |
| rs16922464 | 8          | 57024296   | T      | 0.00524 |
| rs884422   | 8          | 57091969   | T      | 0.00415 |
| rs2668000  | 8          | 57112918   | C      | 0.00342 |
| rs12680392 | 8          | 57196248   | A      | 0.00959 |
| rs11989947 | 8          | 57926689   | G      | 0.00185 |
| rs1442125  | 8          | 58198812   | A      | 0.00588 |
| rs16921695 | 8          | 58220209   | C      | 0.00732 |
| rs10958532 | 8          | 58244139   | G      | 0.01285 |
| rs6994658  | 8          | 58246609   | G      | 0.01214 |
| rs17194487 | 8          | 58267466   | T      | 0.00074 |
| rs6982990  | 8          | 58277829   | C      | 0.00888 |
| rs17804870 | 8          | 58320625   | G      | 0.00149 |
| rs17805110 | 8          | 58323993   | C      | 0.01212 |
| rs17805326 | 8          | 58332087   | C      | 0.00568 |
| rs17805332 | 8          | 58332352   | G      | 0.01037 |
| rs2117890  | 8          | 58925608   | T      | 0.01184 |
| rs10504242 | 8          | 59148749   | C      | 0.00593 |
| rs13277801 | 8          | 59516088   | T      | 0.01203 |
| rs6985620  | 8          | 59532713   | G      | 0.00950 |
| rs2726561  | 8          | 59821230   | T      | 0.00192 |
| rs13251536 | 8          | 59921972   | C      | 0.00215 |
| rs2168409  | 8          | 60040787   | T      | 0.00541 |
| rs3110142  | 8          | 60204564   | G      | 0.00991 |
| rs4607595  | 8          | 60964005   | A      | 0.01170 |
| rs7819235  | 8          | 60994310   | T      | 0.01593 |
| rs6985045  | 8          | 6109822    | G      | 0.00786 |
| rs16926068 | 8          | 61436766   | C      | 0.00129 |
| rs10088453 | 8          | 62499008   | T      | 0.00373 |
| rs7840865  | 8          | 62991951   | G      | 0.00568 |
| rs1864731  | 8          | 62994726   | G      | 0.00370 |
| rs7842255  | 8          | 63000615   | T      | 0.01447 |
| rs16928166 | 8          | 63084209   | C      | 0.00915 |
| rs16928311 | 8          | 63113409   | C      | 0.00923 |
| rs16928335 | 8          | 63116802   | C      | 0.01607 |
| rs6990341  | 8          | 63170923   | A      | 0.00867 |
| rs1545786  | 8          | 63796569   | G      | 0.00637 |
| rs12542042 | 8          | 63919059   | G      | 0.01327 |
| rs6987149  | 8          | 63990420   | A      | 0.00059 |
| SNP         | Chromosome | Position   | Allele | p-value  |
|-------------|------------|------------|--------|----------|
| rs10103710  | 8          | 64469966   | T      | 0.00258  |
| rs13254221  | 8          | 64979657   | A      | 0.01311  |
| rs17291458  | 8          | 65059841   | C      | 0.01564  |
| rs11777025  | 8          | 66626227   | C      | 0.01492  |
| rs11781358  | 8          | 66632480   | A      | 0.00056  |
| rs14213     | 8          | 66677508   | C      | 0.00639  |
| rs1053088   | 8          | 66678337   | A      | 0.01588  |
| rs7831234   | 8          | 67214949   | A      | 0.00454  |
| rs9694082   | 8          | 67229334   | G      | 0.01597  |
| rs7822243   | 8          | 67231942   | A      | 0.00421  |
| rs6999100   | 8          | 67245286   | A      | 0.00191  |
| rs1544986   | 8          | 68407143   | G      | 0.01013  |
| rs7829537   | 8          | 68465081   | T      | 0.01414  |
| rs2114051   | 8          | 68754736   | C      | 0.01065  |
| rs6472330   | 8          | 68762513   | C      | 0.00326  |
| rs2380427   | 8          | 68770846   | C      | 0.01357  |
| rs2553651   | 8          | 68777945   | C      | 0.01256  |
| rs2217028   | 8          | 68779823   | C      | 0.01595  |
| rs6472342   | 8          | 68933224   | A      | 0.01626  |
| rs4428658   | 8          | 69015870   | T      | 0.00886  |
| rs6999098   | 8          | 69072314   | A      | 0.00890  |
| rs10097733  | 8          | 69176372   | A      | 0.01320  |
| rs1914328   | 8          | 69450724   | A      | 0.00571  |
| rs16934546  | 8          | 69463495   | C      | 0.00346  |
| rs2953964   | 8          | 69926501   | C      | 0.00194  |
| rs13273088  | 8          | 70656528   | G      | 0.00180  |
| rs17720343  | 8          | 70672343   | A      | 0.00524  |
| rs16936279  | 8          | 70747363   | T      | 0.00990  |
| rs10089971  | 8          | 70815403   | C      | 0.01169  |
| rs4074358   | 8          | 71208965   | G      | 0.00205  |
| rs10504469  | 8          | 71251571   | G      | 0.00009  |
| rs13277972  | 8          | 72188089   | G      | 0.00793  |
| rs16937408  | 8          | 72206677   | A      | 0.01477  |
| rs7843772   | 8          | 72224650   | C      | 0.01536  |
| rs3763548   | 8          | 72602437   | T      | 0.00054  |
| rs10283255  | 8          | 72782372   | A      | 0.00987  |
| rs7000490   | 8          | 73202985   | G      | 0.01154  |
| rs16938055  | 8          | 73210302   | A      | 0.01365  |
| rs10504532  | 8          | 73215633   | T      | 0.01664  |
| rs4574889   | 8          | 73228899   | A      | 0.01385  |
| rs4363243   | 8          | 73230236   | T      | 0.00385  |
| rs13253101  | 8          | 73705254   | A      | 0.00295  |
| rs2246785   | 8          | 73742670   | T      | 0.00393  |
| rs1965805   | 8          | 73818016   | A      | 0.00150  |
| rs            | Chromosome | Position | Allele | P-value |
|---------------|------------|----------|--------|---------|
| rs10808790    | 8          | 73932263 | T      | 0.00656 |
| rs11992054    | 8          | 74189026 | T      | 0.00116 |
| rs12541216    | 8          | 75037912 | G      | 0.01261 |
| rs10504552    | 8          | 75038119 | A      | 0.00638 |
| rs6987422     | 8          | 75189439 | A      | 0.00958 |
| rs41421651    | 8          | 75199459 | G      | 0.00642 |
| rs2912302     | 8          | 75221845 | T      | 0.01424 |
| rs1875064     | 8          | 75238861 | A      | 0.00462 |
| rs2977056     | 8          | 75247824 | G      | 0.01203 |
| rs2936680     | 8          | 75251256 | G      | 0.01599 |
| rs10957702    | 8          | 75306307 | T      | 0.00640 |
| rs2977046     | 8          | 75342192 | C      | 0.01619 |
| rs269173      | 8          | 75799475 | A      | 0.00122 |
| rs16939078    | 8          | 76554139 | A      | 0.00159 |
| rs10464917    | 8          | 76809591 | A      | 0.00398 |
| rs12543819    | 8          | 77072706 | T      | 0.00998 |
| rs863813      | 8          | 77088796 | A      | 0.01152 |
| rs830435      | 8          | 77100509 | A      | 0.00957 |
| rs1821018     | 8          | 77316621 | G      | 0.00611 |
| rs2626349     | 8          | 77919190 | G      | 0.00116 |
| rs6982916     | 8          | 79134917 | A      | 0.01206 |
| rs7357405     | 8          | 79183255 | A      | 0.00720 |
| rs7007747     | 8          | 79375373 | C      | 0.01078 |
| rs2169149     | 8          | 80381470 | T      | 0.01472 |
| rs1460162     | 8          | 80389955 | C      | 0.01612 |
| rs1460163     | 8          | 80390003 | T      | 0.00463 |
| rs2461033     | 8          | 80758594 | C      | 0.00467 |
| rs16907075    | 8          | 80762352 | T      | 0.00795 |
| rs11991941    | 8          | 81198733 | G      | 0.01087 |
| rs16907708    | 8          | 81509974 | T      | 0.00874 |
| rs11785691    | 8          | 81673176 | T      | 0.00908 |
| rs7835909     | 8          | 82436290 | C      | 0.01131 |
| rs17720586    | 8          | 83431838 | C      | 0.00090 |
| rs7825517     | 8          | 84120546 | G      | 0.00129 |
| rs7829784     | 8          | 84276448 | A      | 0.00609 |
| rs2090880     | 8          | 84277905 | A      | 0.01277 |
| rs7007038     | 8          | 84675888 | T      | 0.01636 |
| rs16912406    | 8          | 85088628 | C      | 0.01399 |
| rs1365400     | 8          | 87083604 | G      | 0.00536 |
| rs7842410     | 8          | 87764021 | G      | 0.00759 |
| rs1458132     | 8          | 87835529 | T      | 0.01475 |
| rs4639531     | 8          | 87858448 | C      | 0.01402 |
| rs6468519     | 8          | 87953076 | C      | 0.00776 |
| rs10955093    | 8          | 87974367 | G      | 0.01293 |
| SNP       | Chromosome | Position | Allele | P-value |
|-----------|------------|----------|--------|---------|
| rs6468774 | 8          | 88419225 | A      | 0.00603 |
| rs7840637 | 8          | 88872232 | A      | 0.00882 |
| rs7824648 | 8          | 88880870 | A      | 0.00928 |
| rs7839686 | 8          | 88994844 | G      | 0.00335 |
| rs17717629| 8          | 88999778 | C      | 0.00732 |
| rs278886  | 8          | 89061906 | T      | 0.01014 |
| rs10504848| 8          | 89286855 | G      | 0.00380 |
| rs7824648 | 8          | 88880870 | A      | 0.00928 |
| rs7839686 | 8          | 88994844 | G      | 0.00335 |
| rs17717629| 8          | 88999778 | C      | 0.00732 |
| rs278886  | 8          | 89061906 | T      | 0.01014 |
| rs10504848| 8          | 89286855 | G      | 0.00380 |
| rs7824648 | 8          | 88880870 | A      | 0.00928 |
| rs7839686 | 8          | 88994844 | G      | 0.00335 |
| rs17717629| 8          | 88999778 | C      | 0.00732 |
| rs278886  | 8          | 89061906 | T      | 0.01014 |
| rs10504848| 8          | 89286855 | G      | 0.00380 |
| rs7824648 | 8          | 88880870 | A      | 0.00928 |
| rs7839686 | 8          | 88994844 | G      | 0.00335 |
| rs17717629| 8          | 88999778 | C      | 0.00732 |
| rs278886  | 8          | 89061906 | T      | 0.01014 |
| rs10504848| 8          | 89286855 | G      | 0.00380 |
| rs7824648 | 8          | 88880870 | A      | 0.00928 |
| rs7839686 | 8          | 88994844 | G      | 0.00335 |
| rs17717629| 8          | 88999778 | C      | 0.00732 |
| rs278886  | 8          | 89061906 | T      | 0.01014 |
| rs10504848| 8          | 89286855 | G      | 0.00380 |
| rs7824648 | 8          | 88880870 | A      | 0.00928 |
| rs7839686 | 8          | 88994844 | G      | 0.00335 |
| rs17717629| 8          | 88999778 | C      | 0.00732 |
| rs278886  | 8          | 89061906 | T      | 0.01014 |
| rs10504848| 8          | 89286855 | G      | 0.00380 |
| rs7824648 | 8          | 88880870 | A      | 0.00928 |
| rs7839686 | 8          | 88994844 | G      | 0.00335 |
| rs17717629| 8          | 88999778 | C      | 0.00732 |
| rs278886  | 8          | 89061906 | T      | 0.01014 |
| rs10504848| 8          | 89286855 | G      | 0.00380 |
| rs7824648 | 8          | 88880870 | A      | 0.00928 |
| rs7839686 | 8          | 88994844 | G      | 0.00335 |
| rs17717629| 8          | 88999778 | C      | 0.00732 |
| rs278886  | 8          | 89061906 | T      | 0.01014 |
| rs10504848| 8          | 89286855 | G      | 0.00380 |
| rs7824648 | 8          | 88880870 | A      | 0.00928 |
| rs7839686 | 8          | 88994844 | G      | 0.00335 |
| rs17717629| 8          | 88999778 | C      | 0.00732 |
| rs278886  | 8          | 89061906 | T      | 0.01014 |
| rs10504848| 8          | 89286855 | G      | 0.00380 |
| rsID           | CHROM | POS   | REF  | ALT  | p-value |
|---------------|-------|-------|------|------|---------|
| rs16898310    | 8     | 101469479 | C    |      | 0.00657 |
| rs7842290     | 8     | 101501220 | G    |      | 0.00918 |
| rs7004548     | 8     | 101707344 | C    |      | 0.00116 |
| rs17365948    | 8     | 102026053 | G    |      | 0.00719 |
| rs6997824     | 8     | 102195896 | A    |      | 0.00716 |
| rs1431008     | 8     | 102351297 | T    |      | 0.01508 |
| rs16867595    | 8     | 102468210 | T    |      | 0.00104 |
| rs678347      | 8     | 102532778 | A    |      | 0.00210 |
| rs10087735    | 8     | 102719877 | A    |      | 0.00900 |
| rs1269695     | 8     | 103140229 | T    |      | 0.00033 |
| rs998200      | 8     | 103635402 | G    |      | 0.01078 |
| rs2436896     | 8     | 103636875 | A    |      | 0.00348 |
| rs2248172     | 8     | 103638355 | C    |      | 0.01349 |
| rs10955290    | 8     | 103823287 | C    |      | 0.01423 |
| rs7001645     | 8     | 105192526 | C    |      | 0.00369 |
| rs17821383    | 8     | 105361774 | T    |      | 0.00746 |
| rs921110      | 8     | 105387143 | C    |      | 0.00108 |
| rs11784380    | 8     | 106062241 | T    |      | 0.00133 |
| rs3101274     | 8     | 106121519 | C    |      | 0.00084 |
| rs6983273     | 8     | 106257703 | G    |      | 0.00040 |
| rs1349318     | 8     | 106625669 | C    |      | 0.01292 |
| rs1348262     | 8     | 106754469 | T    |      | 0.00607 |
| rs4734135     | 8     | 107328412 | T    |      | 0.00242 |
| rs11785730    | 8     | 108855023 | G    |      | 0.01095 |
| rs10090705    | 8     | 109701721 | T    |      | 0.00464 |
| rs904174      | 8     | 109754362 | A    |      | 0.01489 |
| rs904175      | 8     | 109756487 | A    |      | 0.01501 |
| rs3019417     | 8     | 109769766 | C    |      | 0.01203 |
| rs4735075     | 8     | 109775285 | T    |      | 0.00475 |
| rs897838      | 8     | 110495783 | G    |      | 0.00440 |
| rs2703388     | 8     | 110651938 | C    |      | 0.01213 |
| rs2844235     | 8     | 110663324 | A    |      | 0.00530 |
| rs16879807    | 8     | 110693029 | A    |      | 0.01456 |
| rs16880052    | 8     | 110884232 | C    |      | 0.00230 |
| rs7832016     | 8     | 110983650 | G    |      | 0.00851 |
| rs4734218     | 8     | 111092599 | T    |      | 0.00228 |
| rs13272142    | 8     | 111243309 | T    |      | 0.00502 |
| rs2350728     | 8     | 111253247 | C    |      | 0.01060 |
| rs11785408    | 8     | 111988767 | C    |      | 0.00788 |
| rs7388152     | 8     | 112011935 | T    |      | 0.00144 |
| rs1427181     | 8     | 112260608 | C    |      | 0.00991 |
rs4876700  8  112625740  C  0.00697
rs9297452  8  112812615  G  0.01423
rs6469379  8  112845541  C  0.00684
rs1397367  8  112898378  A  0.00049
rs17559706 8  113473315  C  0.01149
rs13262072 8  114002277  T  0.01482
rs35653877 8  114194009  T  0.01470
rs9297452  8  112812615  G  0.01423
rs6469379  8  112845541  C  0.00684
rs1397367  8  112898378  A  0.00049
rs17559706 8  113473315  C  0.01149
rs13262072 8  114002277  T  0.01482
rs35653877 8  114194009  T  0.01470
| rs11777302 | 8 | 124719608 | T | 0.00523 |
| rs13261694 | 8 | 124722976 | A | 0.01463 |
| rs4374971  | 8 | 124735468 | A | 0.01263 |
| rs6470170  | 8 | 124736503 | A | 0.01034 |
| rs1073178  | 8 | 125155212 | A | 0.00135 |
| rs16899480 | 8 | 125337303 | T | 0.01599 |
| rs17296667 | 8 | 125366053 | G | 0.01633 |
| rs4007936  | 8 | 125723535 | A | 0.00851 |
| rs891540   | 8 | 125811489 | T | 0.00898 |
| rs6989594  | 8 | 126373049 | G | 0.01063 |
| rs10110319 | 8 | 127448989 | A | 0.00739 |
| rs12679253 | 8 | 127654555 | A | 0.00797 |
| rs2029425  | 8 | 127841380 | A | 0.01062 |
| rs4871004  | 8 | 128051271 | A | 0.01124 |
| rs2392683  | 8 | 128055648 | C | 0.00395 |
| rs710885   | 8 | 128095310 | C | 0.00768 |
| rs10505483 | 8 | 128194377 | T | 0.01176 |
| rs7357486  | 8 | 128510805 | C | 0.00950 |
| rs7835137  | 8 | 128744953 | T | 0.00894 |
| rs7829132  | 8 | 128902659 | C | 0.00464 |
| rs4733792  | 8 | 128909458 | A | 0.01367 |
| rs4733797  | 8 | 128913644 | C | 0.01521 |
| rs4332094  | 8 | 128926090 | T | 0.01602 |
| rs13259137 | 8 | 128927871 | G | 0.01576 |
| rs2648880  | 8 | 129143281 | A | 0.01545 |
| rs4472475  | 8 | 130291217 | T | 0.01620 |
| rs4733687  | 8 | 130321411 | A | 0.01214 |
| rs4733695  | 8 | 130362958 | G | 0.00271 |
| rs4480081  | 8 | 130368674 | G | 0.00201 |
| rs2099292  | 8 | 130427095 | C | 0.00640 |
| rs11990588 | 8 | 130444986 | T | 0.00889 |
| rs2724831  | 8 | 130898219 | G | 0.01551 |
| rs7463074  | 8 | 131640779 | A | 0.00112 |
| rs12549037 | 8 | 131687094 | G | 0.01276 |
| rs17312795 | 8 | 131739875 | C | 0.00019 |
| rs1876882  | 8 | 131814746 | C | 0.00681 |
| rs10956569 | 8 | 132068198 | C | 0.00851 |
| rs7010302  | 8 | 132615532 | G | 0.01490 |
| rs16904487 | 8 | 132723332 | G | 0.01103 |
| rs11994131 | 8 | 132937403 | C | 0.00308 |
| rs10505586 | 8 | 133191683 | T | 0.00092 |
| rs10505587 | 8 | 133197355 | T | 0.00595 |
| rs2436140  | 8 | 133224443 | G | 0.00375 |
| rs16904805 | 8 | 134101611 | T | 0.00764 |
| SNP   | Chromosome | Start Position | Allele | P-value |
|-------|------------|----------------|--------|---------|
| rs1133076 | 8          | 134194864      | G      | 0.00966 |
| rs2294025 | 8          | 134214694      | T      | 0.01424 |
| rs3739262 | 8          | 134274895      | T      | 0.00397 |
| rs1060401 | 8          | 134339485      | T      | 0.01354 |
| rs4736679 | 8          | 134569094      | A      | 0.00440 |
| rs2978015 | 8          | 134609061      | G      | 0.00759 |
| rs2978023 | 8          | 134617753      | G      | 0.00015 |
| rs1518892 | 8          | 134679989      | C      | 0.00529 |
| rs4736702 | 8          | 134684911      | G      | 0.01505 |
| rs7003789 | 8          | 135434578      | G      | 0.00317 |
| rs11989849 | 8          | 135606356      | C      | 0.00365 |
| rs4909801 | 8          | 135948341      | A      | 0.00701 |
| rs12386815 | 8         | 136027851      | G      | 0.01559 |
| rs16905306 | 8         | 136307175      | A      | 0.01504 |
| rs4130250 | 8          | 136956284      | G      | 0.00438 |
| rs6997347 | 8          | 136994256      | T      | 0.01201 |
| rs1868368 | 8          | 137082629      | T      | 0.01171 |
| rs10505642 | 8         | 137092988      | G      | 0.00141 |
| rs6994909 | 8          | 137094522      | A      | 0.00638 |
| rs4909537 | 8          | 137094596      | A      | 0.00144 |
| rs6577701 | 8          | 137105435      | C      | 0.00440 |
| rs13266231 | 8         | 137113539      | C      | 0.01547 |
| rs13281271 | 8         | 137352177      | T      | 0.00955 |
| rs305332 | 8          | 137707391      | A      | 0.01574 |
| rs17646599 | 8         | 137757137      | G      | 0.01137 |
| rs6985864 | 8          | 138084920      | G      | 0.00017 |
| rs4256627 | 8          | 138167112      | C      | 0.00579 |
| rs4909356 | 8          | 138289997      | T      | 0.00314 |
| rs6577766 | 8          | 138347037      | C      | 0.00284 |
| rs17624373 | 8         | 138381466      | T      | 0.00724 |
| rs28483233 | 8         | 138673785      | G      | 9.32700 |
| rs6577810 | 8          | 138682350      | A      | 0.01521 |
| rs4489355 | 8          | 138684814      | C      | 0.01447 |
| rs2705304 | 8          | 138983556      | G      | 0.01394 |
| rs2705295 | 8          | 138987482      | G      | 0.00928 |
| rs2705291 | 8          | 138988883      | G      | 0.01165 |
| rs2705285 | 8          | 139012095      | G      | 0.00001 |
| rs2668129 | 8          | 139034394      | C      | 0.01530 |
| rs17651762 | 8         | 139050457      | T      | 0.00123 |
| rs2318334 | 8          | 139859320      | T      | 0.00150 |
| rs12114311 | 8         | 139940650      | A      | 0.00762 |
| rs11166850 | 8         | 139943056      | G      | 0.01067 |
| rs2318342 | 8          | 139966338      | T      | 0.00604 |
| rs4074554 | 8          | 140232633      | T      | 0.00864 |
| SNP         | Chromosome | Position | Genotype | P-value |
|-------------|------------|----------|----------|---------|
| rs6577996   | 8          | 140236061| G        | 0.01155 |
| rs11166882  | 8          | 140237822| A        | 0.01275 |
| rs6578008   | 8          | 140272967| T        | 0.00632 |
| rs2468663   | 8          | 140538976| C        | 0.01664 |
| rs2431300   | 8          | 140680936| A        | 0.01146 |
| rs6578039   | 8          | 140757662| T        | 0.00617 |
| rs883613    | 8          | 141145379| A        | 0.01275 |
| rs9987138   | 8          | 141145805| G        | 0.01283 |
| rs6578164   | 8          | 142428444| G        | 0.00685 |
| rs11990111  | 8          | 142778888| G        | 0.01052 |
| rs13262940  | 8          | 143656311| T        | 0.00509 |
| rs7844961   | 8          | 143999186| A        | 0.01257 |
| rs7831617   | 8          | 143999285| T        | 0.00042 |
| rs7846671   | 8          | 144255341| C        | 0.00996 |
| rs2722469   | 8          | 145926351| C        | 0.00585 |
| rs10971413  | 9          | 331063   | C        | 0.01648 |
| rs10491598  | 9          | 582889   | A        | 0.00928 |
| rs1323269   | 9          | 780234   | C        | 0.00793 |
| rs10115078  | 9          | 792053   | C        | 0.00333 |
| rs16924470  | 9          | 813064   | T        | 0.00086 |
| rs279874    | 9          | 943057   | C        | 0.00620 |
| rs7043337   | 9          | 1061814  | G        | 0.00193 |
| rs1876752   | 9          | 1063114  | C        | 0.01234 |
| rs10733226  | 9          | 1114027  | G        | 0.00487 |
| rs4740516   | 9          | 1211290  | G        | 0.00246 |
| rs4741218   | 9          | 1233842  | C        | 0.01307 |
| rs10114766  | 9          | 1294068  | G        | 0.00849 |
| rs945663    | 9          | 1668482  | A        | 0.00731 |
| rs10962856  | 9          | 1707031  | C        | 0.00887 |
| rs10962859  | 9          | 1707158  | A        | 0.00498 |
| rs1904091   | 9          | 1715917  | A        | 0.00957 |
| rs17724855  | 9          | 1862957  | A        | 0.00087 |
| rs1890587   | 9          | 1968127  | G        | 0.00674 |
| rs3765580   | 9          | 2067888  | C        | 0.01566 |
| rs10964908  | 9          | 2119832  | C        | 0.00763 |
| rs3887339   | 9          | 2204428  | G        | 0.01185 |
| rs2210398   | 9          | 2333547  | G        | 0.01203 |
| rs871786    | 9          | 2351176  | T        | 0.00581 |
| rs1026052   | 9          | 2667012  | T        | 0.00005 |
| rs12345926 | 9 | 2920875 | T | 0.01315 |
|------------|---|---------|---|---------|
| rs1501586  | 9 | 2931418 | A | 0.00496 |
| rs7045640  | 9 | 2968377 | C | 0.00975 |
| rs3858038  | 9 | 2978280 | C | 0.00489 |
| rs7027328  | 9 | 3733730 | A | 0.00387 |
| rs4570215  | 9 | 4050625 | G | 0.00356 |
| rs7028492  | 9 | 4070755 | G | 0.00738 |
| rs806051   | 9 | 4109707 | G | 0.01504 |
| rs529420   | 9 | 4117906 | A | 0.00161 |
| rs2068911  | 9 | 4195498 | A | 0.00953 |
| rs10974805 | 9 | 4824420 | T | 0.01099 |
| rs461130   | 9 | 4824597 | C | 0.01249 |
| rs10815160 | 9 | 5106616 | C | 0.00279 |
| rs911735   | 9 | 5352762 | C | 0.00957 |
| rs10815213 | 9 | 5408191 | G | 0.00516 |
| rs702275   | 9 | 5436388 | T | 0.01176 |
| rs10975519 | 9 | 6243571 | A | 0.01592 |
| rs7047921  | 9 | 6245319 | A | 7.77900 |
| rs2039386  | 9 | 6258204 | G | 0.00656 |
| rs10758783 | 9 | 6397999 | T | 0.01370 |
| rs10758790 | 9 | 6421946 | T | 0.00865 |
| rs1759402  | 9 | 6670477 | A | 0.00501 |
| rs17501756 | 9 | 6674955 | G | 0.00631 |
| rs6477134  | 9 | 6964101 | C | 0.01311 |
| rs1570507  | 9 | 6964900 | C | 0.00312 |
| rs10491778 | 9 | 6967233 | G | 0.01341 |
| rs1323410  | 9 | 6968691 | T | 0.00681 |
| rs7019027  | 9 | 7041826 | C | 0.00788 |
| rs4740869  | 9 | 7062065 | A | 0.00560 |
| rs4742409  | 9 | 7764180 | T | 0.01015 |
| rs1853252  | 9 | 7850012 | T | 0.00286 |
| rs10976785 | 9 | 8109666 | A | 0.01303 |
| rs10815767 | 9 | 8121675 | A | 0.00555 |
| rs11787770 | 9 | 8132694 | T | 0.00592 |
| rs10976918 | 9 | 8279350 | G | 0.01043 |
| rs12235247 | 9 | 8292233 | G | 0.01425 |
| rs16927547 | 9 | 8322307 | C | 0.00494 |
| rs1909755  | 9 | 8377055 | C | 0.00392 |
| rs2296101  | 9 | 8479006 | T | 0.00821 |
| rs7023351  | 9 | 8568551 | C | 0.00099 |
| rs17573565 | 9 | 8594583 | C | 0.00865 |
| rs       | Chromosome | Position  | Genotype | P-value |
|----------|------------|-----------|----------|---------|
| rs1512380 | 9          | 8625791   | C        | 0.01030 |
| rs16928238| 9          | 8636183   | G        | 0.01526 |
| rs7032107 | 9          | 8785072   | G        | 0.00875 |
| rs1434254 | 9          | 8816278   | A        | 0.01004 |
| rs10759011| 9          | 8863732   | G        | 0.01539 |
| rs10739174| 9          | 8863866   | T        | 0.00409 |
| rs10511516| 9          | 8972308   | T        | 0.01377 |
| rs1332806 | 9          | 9345896   | C        | 0.00821 |
| rs10977739| 9          | 9414519   | G        | 0.01288 |
| rs17767692| 9          | 9423671   | C        | 0.01105 |
| rs10977785| 9          | 9455775   | C        | 0.01219 |
| rs10977801| 9          | 9465644   | C        | 0.00150 |
| rs1332199 | 9          | 9493477   | T        | 0.01086 |
| rs7046780 | 9          | 9592389   | G        | 0.00100 |
| rs10978034| 9          | 9839056   | G        | 0.00473 |
| rs6477431 | 9          | 9962241   | A        | 0.00889 |
| rs10958891| 9          | 10114871  | G        | 0.00174 |
| rs10959841| 9          | 11459190  | T        | 0.00924 |
| rs10491950| 9          | 11481500  | G        | 0.00626 |
| rs10756267| 9          | 11701459  | T        | 0.00229 |
| rs791681  | 9          | 12512037  | C        | 0.01106 |
| rs10465043| 9          | 12950607  | G        | 6.15400 |
| rs1413359 | 9          | 13520487  | A        | 0.00726 |
| rs10810007| 9          | 13709314  | T        | 0.00832 |
| rs7848012 | 9          | 1402182   | C        | 0.00339 |
| rs4741394 | 9          | 14527386  | T        | 0.01238 |
| rs10961747| 9          | 14826633  | T        | 0.00792 |
| rs504822  | 9          | 15232896  | A        | 0.01213 |
| rs10511610| 9          | 15262462  | G        | 0.00740 |
| rs7847144 | 9          | 15704658  | T        | 0.01629 |
| rs6474954 | 9          | 15704811  | C        | 0.00917 |
| rs4146291 | 9          | 15773266  | T        | 0.00838 |
| rs770193  | 9          | 15852959  | G        | 0.00215 |
| rs10810502| 9          | 15942197  | T        | 0.00532 |
| rs1887665 | 9          | 15994012  | C        | 0.01214 |
| rs11795150| 9          | 16095961  | A        | 0.00887 |
| rs16934205| 9          | 16185381  | T        | 0.01011 |
| rs12005826| 9          | 16186674  | T        | 0.00412 |
| rs12004216| 9          | 16211742  | C        | 0.00055 |
| rs10756757| 9          | 16509926  | C        | 0.00634 |
| rs10756762| 9          | 16553123  | A        | 0.00997 |
| rs10810581| 9          | 16635894  | T        | 0.00999 |
| rs1888207 | 9          | 16686187  | G        | 0.00196 |
| rs10738446| 9          | 16686510  | C        | 0.00040 |
| SNP        | Chromosome | Position    | Allele | P-value |
|------------|------------|-------------|--------|---------|
| rs2297176  | 9          | 16696012    | C      | 0.01527 |
| rs1856132  | 9          | 16720653    | C      | 0.01604 |
| rs9987413  | 9          | 16740348    | T      | 0.00650 |
| rs2254330  | 9          | 16792973    | G      | 0.00132 |
| rs12351269 | 9          | 16796521    | G      | 0.01231 |
| rs3935374  | 9          | 16816766    | T      | 0.00049 |
| rs263655   | 9          | 16999481    | A      | 0.00132 |
| rs1856132  | 9          | 16720653    | C      | 0.01217 |
| rs9987413  | 9          | 16740348    | T      | 0.00650 |
| rs2254330  | 9          | 16792973    | G      | 0.00132 |
| rs12351269 | 9          | 16796521    | G      | 0.01231 |
| rs3935374  | 9          | 16816766    | T      | 0.00049 |
| rs263655   | 9          | 16999481    | A      | 0.00132 |
| rs17547685 | 9          | 17622364    | C      | 16.62400|
| rs6475188  | 9          | 17868407    | G      | 0.00239 |
| rs10963347 | 9          | 17926235    | G      | 0.00326 |
| rs10963360 | 9          | 17946618    | G      | 0.00151 |
| rs16936157 | 9          | 17955723    | A      | 0.01318 |
| rs7047163  | 9          | 18772512    | A      | 0.00268 |
| rs10156461 | 9          | 18808890    | C      | 0.01432 |
| rs7039188  | 9          | 18823014    | C      | 0.00605 |
| rs17233198 | 9          | 18823053    | T      | 0.00404 |
| rs7862903  | 9          | 18852658    | C      | 0.01490 |
| rs6475295  | 9          | 18964072    | T      | 0.01453 |
| rs10963974 | 9          | 19120611    | G      | 0.01542 |
| rs4977499  | 9          | 19135435    | A      | 0.00097 |
| rs7046518  | 9          | 19409446    | G      | 0.00527 |
| rs4571814  | 9          | 20484511    | G      | 0.01017 |
| rs10964641 | 9          | 20631087    | C      | 0.01470 |
| rs17685984 | 9          | 20776691    | G      | 0.01394 |
| rs10811525 | 9          | 21278176    | A      | 0.00763 |
| rs16938527 | 9          | 21663608    | T      | 0.00056 |
| rs2383213  | 9          | 22231415    | A      | 0.00104 |
| rs647549   | 9          | 22699756    | T      | 0.00697 |
| rs555828   | 9          | 22723238    | T      | 0.00855 |
| rs10811780 | 9          | 22841021    | T      | 0.00310 |
| rs1536856  | 9          | 24228655    | A      | 0.01182 |
| rs7039851  | 9          | 24389969    | G      | 0.01538 |
| rs849050   | 9          | 24740179    | C      | 0.01532 |
| rs10757485 | 9          | 24762803    | G      | 0.00018 |
| rs12686755 | 9          | 24895439    | A      | 0.00251 |
| rs7025783  | 9          | 24933729    | C      | 0.00378 |
| rs10114899 | 9          | 24949557    | G      | 0.00066 |
| rs4507853  | 9          | 24991219    | A      | 0.00805 |
| rs7038072  | 9          | 25316440    | C      | 0.01548 |
| rs10966868 | 9          | 25332777    | G      | 0.00414 |
| rs1220071  | 9          | 25805074    | C      | 0.00002 |
| rs7022624  | 9          | 25971645    | C      | 0.00113 |
| rs          | chr | pos       | ref | alt | p-value |
|-------------|-----|-----------|-----|-----|---------|
| rs10115168  | 9   | 26696278  | T   |     | 0.01231 |
| rs7866709   | 9   | 26714384  | A   |     | 0.01471 |
| rs10967532  | 9   | 26768168  | G   |     | 0.01183 |
| rs17755911  | 9   | 26874045  | G   |     | 0.00613 |
| rs16911092  | 9   | 27132444  | G   |     | 0.00565 |
| rs7855848   | 9   | 27143055  | A   |     | 0.00609 |
| rs1107774   | 9   | 27154846  | A   |     | 0.00474 |
| rs10967760  | 9   | 27172825  | A   |     | 0.00657 |
| rs606342    | 9   | 27193134  | C   |     | 0.00633 |
| rs10967795  | 9   | 27224132  | G   |     | 0.00848 |
| rs1885379   | 9   | 27262426  | T   |     | 0.01155 |
| rs10967865  | 9   | 27284815  | A   |     | 0.00572 |
| rs4483251   | 9   | 27361123  | G   |     | 0.00364 |
| rs4258086   | 9   | 27381266  | G   |     | 0.00724 |
| rs1821432   | 9   | 28987308  | A   |     | 0.01195 |
| rs12003345  | 9   | 29030151  | G   |     | 0.01321 |
| rs4355871   | 9   | 29643331  | G   |     | 0.01477 |
| rs10969315  | 9   | 29654138  | G   |     | 0.01647 |
| rs10969317  | 9   | 29661982  | C   |     | 0.01008 |
| rs10969404  | 9   | 29827987  | G   |     | 0.01004 |
| rs7871526   | 9   | 29893720  | G   |     | 0.00482 |
| rs1633490   | 9   | 30084419  | T   |     | 0.00290 |
| rs12350526  | 9   | 30247912  | C   |     | 0.00087 |
| rs10969854  | 9   | 30743998  | A   |     | 0.00810 |
| rs1115506   | 9   | 30815690  | T   |     | 0.01387 |
| rs10758026  | 9   | 31143406  | T   |     | 0.00593 |
| rs1414025   | 9   | 31154389  | C   |     | 0.00875 |
| rs10970497  | 9   | 31701586  | G   |     | 0.01563 |
| rs12550877  | 9   | 31702096  | T   |     | 0.00783 |
| rs1999368   | 9   | 32236791  | A   |     | 0.00078 |
| rs628425    | 9   | 32539602  | A   |     | 0.01314 |
| rs12003093  | 9   | 32578258  | A   |     | 0.01239 |
| rs1442288   | 9   | 32879102  | C   |     | 0.01373 |
| rs11789863  | 9   | 33046378  | C   |     | 0.01123 |
| rs10813950  | 9   | 33117640  | G   |     | 0.00582 |
| rs10813951  | 9   | 33118021  | T   |     | 0.01096 |
| rs10813957  | 9   | 33143527  | G   |     | 0.01526 |
| rs10125115  | 9   | 34454433  | G   |     | 0.01200 |
| rs2381162   | 9   | 34544060  | T   |     | 0.00429 |
| rs2812344   | 9   | 34720015  | C   |     | 0.00511 |
| rs10814234  | 9   | 35395543  | C   |     | 0.01130 |
| rs7863401   | 9   | 35932406  | G   |     | 0.00499 |
| rs7035468   | 9   | 36050451  | A   |     | 0.01642 |
| SNP          | Chromosome | Position | Genotype | P-value |
|--------------|------------|----------|----------|---------|
| rs3824425    | 9          | 36479161 | G        | 0.01366 |
| rs10758392   | 9          | 36720774 | T        | 0.00129 |
| rs7043503    | 9          | 36724872 | G        | 0.01431 |
| rs7043808    | 9          | 36724901 | G        | 0.01306 |
| rs10738976   | 9          | 36726811 | A        | 0.01257 |
| rs7025013    | 9          | 36787328 | G        | 0.01431 |
| rs9298973    | 9          | 36879054 | G        | 0.00186 |
| rs7025013    | 9          | 36879054 | G        | 0.00186 |
| rs10125441   | 9          | 37537256 | T        | 0.00686 |
| rs10121098   | 9          | 37872651 | G        | 0.00173 |
| rs943935     | 9          | 38140167 | G        | 0.00436 |
| rs2585667    | 9          | 38190215 | A        | 0.01297 |
| rs2585668    | 9          | 38190670 | C        | 0.00270 |
| rs7044431    | 9          | 38286213 | A        | 0.00501 |
| rs7045549    | 9          | 38712442 | A        | 0.00715 |
| rs4271029    | 9          | 70412250 | C        | 0.00899 |
| rs10511963   | 9          | 7061179  | T        | 0.00194 |
| rs17392931   | 9          | 70670116 | T        | 0.01508 |
| rs10869690   | 9          | 70811507 | C        | 0.00565 |
| rs17439752   | 9          | 71625533 | G        | 0.00985 |
| rs10521434   | 9          | 71638815 | T        | 0.01522 |
| rs10521437   | 9          | 71865359 | C        | 8.16300 |
| rs7469513    | 9          | 72984279 | A        | 0.01164 |
| rs10868968   | 9          | 72984412 | G        | 0.00680 |
| rs11142716   | 9          | 72984608 | C        | 0.00605 |
| rs6560186    | 9          | 72997021 | T        | 0.01053 |
| rs10746864   | 9          | 73001077 | G        | 0.00332 |
| rs2174306    | 9          | 73014929 | T        | 0.00515 |
| rs1354458    | 9          | 73017626 | G        | 0.01053 |
| rs12346443   | 9          | 73022306 | C        | 0.01232 |
| rs11142756   | 9          | 73059780 | T        | 0.01135 |
| rs11142802   | 9          | 73145664 | C        | 0.00612 |
| rs10115877   | 9          | 73199363 | G        | 0.00576 |
| rs7033424    | 9          | 73288654 | C        | 0.01231 |
| rs7031344    | 9          | 73489262 | C        | 0.01428 |
| rs3780610    | 9          | 73518742 | G        | 0.00258 |
| rs12379790   | 9          | 73569079 | T        | 0.00570 |
| rs4130866    | 9          | 74047938 | C        | 0.00153 |
| rs1322479    | 9          | 74073145 | G        | 0.00263 |
| rs7041300    | 9          | 74391174 | A        | 0.01612 |
| rs348454     | 9          | 74743032 | A        | 0.00557 |
| rs11143443   | 9          | 74845870 | G        | 0.00343 |
| rs10114134   | 9          | 74993381 | T        | 0.00057 |
| SNP          | Build | Chromosome | SNP | Position | Allele | p-value   |
|-------------|-------|------------|-----|----------|--------|-----------|
| rs11143600  | 9     | 75304877   | G   | 0.00232  |
| rs1388362   | 9     | 75762609   | G   | 0.01545  |
| rs11143894  | 9     | 76095170   | G   | 0.00854  |
| rs3903529   | 9     | 76454048   | T   | 0.00024  |
| rs4545164   | 9     | 77038315   | A   | 0.00455  |
| rs10869631  | 9     | 77484665   | A   | 0.00848  |
| rs1144637   | 9     | 77609517   | G   | 0.01449  |
| rs11144637  | 9     | 77630293   | A   | 0.00854  |
| rs7031123   | 9     | 77646521   | C   | 0.01448  |
| rs10521469  | 9     | 78074149   | G   | 0.00798  |
| rs2803413   | 9     | 78092971   | T   | 0.00244  |
| rs2643318   | 9     | 78147391   | T   | 0.00102  |
| rs2149589   | 9     | 78390894   | A   | 0.01231  |
| rs10521475  | 9     | 78457692   | A   | 0.00575  |
| rs2042612   | 9     | 78564595   | T   | 0.00084  |
| rs10119901  | 9     | 78576969   | C   | 0.01270  |
| rs7852521   | 9     | 78766008   | C   | 0.01605  |
| rs7856464   | 9     | 78766827   | C   | 0.00600  |
| rs17423029  | 9     | 79084832   | A   | 0.00657  |
| rs1145439   | 9     | 79300769   | T   | 0.01657  |
| rs17063760  | 9     | 79377780   | C   | 0.00095  |
| rs2047995   | 9     | 80359770   | T   | 0.01012  |
| rs1105791   | 9     | 80369137   | C   | 0.01338  |
| rs273431    | 9     | 81056812   | C   | 0.01414  |
| rs10867359  | 9     | 81120514   | G   | 0.00780  |
| rs13298282  | 9     | 81236271   | C   | 0.00418  |
| rs10491787  | 9     | 81264935   | T   | 0.01522  |
| rs1138241   | 9     | 81266285   | G   | 0.00266  |
| rs17427625  | 9     | 81267705   | G   | 0.01651  |
| rs10491791  | 9     | 81286014   | G   | 0.01215  |
| rs17082511  | 9     | 81306157   | C   | 0.01183  |
| rs1329580   | 9     | 81776189   | G   | 0.00913  |
| rs17084245  | 9     | 82653097   | T   | 0.00850  |
| rs7862233   | 9     | 82911008   | G   | 0.00641  |
| rs10780510  | 9     | 83149231   | C   | 0.00867  |
| rs947673    | 9     | 83444937   | T   | 0.00000  |
| rs4877221   | 9     | 83452715   | G   | 0.01165  |
| rs1413797   | 9     | 83717339   | A   | 0.00164  |
| rs10512130  | 9     | 84417587   | T   | 0.00359  |
| rs4877708   | 9     | 84589743   | G   | 0.00737  |
| rs4877709   | 9     | 84590086   | C   | 0.00161  |
| rs7872040   | 9     | 84739651   | G   | 0.00153  |
| rs7864580   | 9     | 85001962   | G   | 0.00095  |
| rs12339855  | 9     | 85066219   | A   | 0.00146  |
| rs1140077   | 9     | 85228938   | A   | 0.01058  |
| SNP      | Chromosome | Position       | Effect | Beta  |
|----------|------------|----------------|--------|-------|
| rs10868019 | 9          | 85288912       | T      | 0.00356 |
| rs4877791  | 9          | 85472161       | C      | 0.00573 |
| rs973460   | 9          | 85856918       | C      | 0.01460 |
| rs7033778  | 9          | 85861585       | C      | 0.01622 |
| rs1436932  | 9          | 85863663       | A      | 0.01003 |
| rs7026159  | 9          | 86039924       | T      | 0.00071 |
| rs1932649  | 9          | 86059945       | T      | 0.01658 |
| rs11140475 | 9          | 86061696       | G      | 0.01467 |
| rs7026159  | 9          | 86062589       | G      | 0.01619 |
| rs6559779  | 9          | 86095927       | G      | 0.01609 |
| rs885003   | 9          | 86099255       | G      | 13.00700 |
| rs12342617 | 9          | 86106730       | A      | 0.01598 |
| rs11140507 | 9          | 86115568       | A      | 0.01577 |
| rs10780660 | 9          | 86116666       | A      | 0.01534 |
| rs10780661 | 9          | 86116127       | G      | 0.01443 |
| rs11140508 | 9          | 86116712       | C      | 0.01534 |
| rs984430   | 9          | 86772647       | T      | 0.01196 |
| rs4877895  | 9          | 86803143       | G      | 0.00169 |
| rs1565450  | 9          | 86840655       | G      | 0.01393 |
| rs2780936  | 9          | 86889466       | C      | 0.01194 |
| rs4877959  | 9          | 87836523       | C      | 0.00213 |
| rs784443   | 9          | 87915576       | A      | 0.00687 |
| rs10868394 | 9          | 88013838       | T      | 0.01232 |
| rs353785   | 9          | 88289182       | T      | 0.00808 |
| rs1929463  | 9          | 88480120       | G      | 0.01036 |
| rs927524   | 9          | 89082420       | A      | 0.01005 |
| rs6559978  | 9          | 89122734       | C      | 0.00186 |
| rs6560003  | 9          | 89360555       | T      | 0.00593 |
| rs11141879 | 9          | 89360808       | G      | 0.01073 |
| rs7852573  | 9          | 89361340       | C      | 0.00797 |
| rs11141909 | 9          | 89408672       | T      | 0.01516 |
| rs7044513  | 9          | 89417269       | G      | 0.01529 |
| rs2947237  | 9          | 89756389       | G      | 0.01021 |
| rs529051   | 9          | 89852575       | C      | 0.01643 |
| rs2051138  | 9          | 90528999       | A      | 0.00297 |
| rs905362   | 9          | 90684334       | C      | 0.01251 |
| rs9410435  | 9          | 90756021       | C      | 0.01574 |
| rs944481   | 9          | 90843107       | G      | 0.00663 |
| rs17529841 | 9          | 91218889       | G      | 0.01649 |
| rs10908931 | 9          | 91295097       | T      | 0.00328 |
| rs17440913 | 9          | 91343208       | G      | 0.00740 |
| rs10429497 | 9          | 91401682       | A      | 0.00255 |
| rs7025971  | 9          | 91733701       | T      | 0.01486 |
| rs10993331 | 9          | 91766807       | G      | 0.01546 |
| rs601472 | 9 | 91816515 | G | 0.00997 |
| rs1777044 | 9 | 92136871 | C | 0.00871 |
| rs748121 | 9 | 92151848 | C | 0.01484 |
| rs10821427 | 9 | 92225760 | T | 0.00128 |
| rs10993697 | 9 | 92615787 | A | 0.01008 |
| rs965892 | 9 | 92669610 | G | 0.00068 |
| rs158690 | 9 | 92696806 | G | 0.00460 |
| rs12344755 | 9 | 92698773 | C | 0.00328 |
| rs2184540 | 9 | 92841029 | A | 0.00564 |
| rs7869771 | 9 | 93220448 | C | 0.01102 |
| rs7867022 | 9 | 93261356 | C | 0.00032 |
| rs7039956 | 9 | 93315663 | A | 0.01172 |
| rs6479357 | 9 | 93350488 | A | 0.01583 |
| rs3001450 | 9 | 94040930 | G | 0.01577 |
| rs710162 | 9 | 94099611 | T | 0.00642 |
| rs7853859 | 9 | 94191198 | A | 0.00451 |
| rs3001450 | 9 | 95003137 | G | 0.01110 |
| rs3001450 | 9 | 95125191 | G | 0.00389 |
| rs11791374 | 9 | 95285108 | C | 0.00286 |
| rs10821147 | 9 | 95311188 | A | 0.01052 |
| rs10761238 | 9 | 95391038 | G | 0.01185 |
| rs2994370 | 9 | 95407641 | G | 0.00657 |
| rs10117505 | 9 | 95710034 | G | 0.00882 |
| rs7042271 | 9 | 96794268 | T | 0.00086 |
| rs7033633 | 9 | 96878602 | A | 0.00837 |
| rs356689 | 9 | 97026515 | A | 0.00350 |
| rs10283758 | 9 | 97040020 | G | 0.00403 |
| rs4743091 | 9 | 97417012 | A | 0.00213 |
| rs7854560 | 9 | 97422771 | T | 0.00249 |
| rs4743123 | 9 | 97440063 | G | 0.00151 |
| rs12552255 | 9 | 97476979 | G | 0.01591 |
| rs700983 | 9 | 97533546 | A | 0.00915 |
| rs4743271 | 9 | 97548449 | T | 0.00814 |
| rs4743272 | 9 | 97548530 | G | 0.00477 |
| rs17396240 | 9 | 97778620 | G | 0.00552 |
| rs1857085 | 9 | 98989016 | A | 0.00758 |
| rs1877431 | 9 | 99573968 | T | 0.00197 |
| rs993501 | 9 | 99663198 | G | 0.00043 |
| rs2151214 | 9 | 100270042 | A | 0.00968 |
| rs2779563 | 9 | 100317637 | A | 0.00608 |
| rs10081642 | 9 | 100428597 | T | 0.00081 |
| SNP     | Chromosome | Base Change | Minor Allele | P-value |
|---------|------------|-------------|--------------|---------|
| rs334353 | 9          | 100948186   | C            | 0.00639 |
| rs10988776 | 9         | 101151735   | T            | 0.00596 |
| rs10819808 | 9         | 102486074   | A            | 0.01601 |
| rs2052977 | 9          | 103033320   | T            | 0.00718 |
| rs12237965 | 9         | 103061577   | G            | 0.01627 |
| rs17189604 | 9         | 103404710   | A            | 0.01209 |
| rs2786720 | 9          | 103578372   | T            | 0.01389 |
| rs10989911 | 9         | 104049649   | T            | 0.00708 |
| rs10990034 | 9         | 104162114   | T            | 0.00900 |
| rs10990041 | 9         | 104167500   | C            | 0.01151 |
| rs860935  | 9          | 104631779   | A            | 0.00687 |
| rs16922210 | 9        | 104634220   | A            | 0.01341 |
| rs2843571 | 9          | 104928708   | C            | 0.01112 |
| rs10120196 | 9        | 104939864   | C            | 0.01661 |
| rs925224  | 9          | 105304375   | T            | 0.00067 |
| rs1373247 | 9          | 105758142   | T            | 0.01341 |
| rs41448350 | 9        | 106333586   | T            | 0.00720 |
| rs10739904 | 9         | 106470783   | T            | 0.00853 |
| rs2297406 | 9          | 106591359   | T            | 0.00238 |
| rs10512337 | 9        | 106720551   | G            | 0.01030 |
| rs4237211 | 9          | 106778510   | C            | 0.00860 |
| rs10978606 | 9        | 108517848   | A            | 0.01002 |
| rs817870  | 9          | 109184509   | G            | 0.00780 |
| rs4979248 | 9          | 109488305   | T            | 0.00565 |
| rs2417805 | 9          | 109606932   | T            | 0.00026 |
| rs10797150 | 9        | 109782342   | A            | 0.00466 |
| rs7042321 | 9          | 109881414   | T            | 0.01636 |
| rs10979206 | 9        | 109900334   | G            | 0.01519 |
| rs559603  | 9          | 109944558   | G            | 0.01252 |
| rs7044959 | 9          | 110341967   | T            | 0.00116 |
| rs10979392 | 9        | 110348705   | C            | 0.01495 |
| rs10979405 | 9        | 110375089   | A            | 0.00888 |
| rs12551911 | 9        | 110375416   | T            | 0.00570 |
| rs7867793 | 9          | 110428587   | C            | 0.01239 |
| rs2900469 | 9          | 110449978   | G            | 0.00280 |
| rs1994807 | 9          | 110464975   | T            | 0.00269 |
| rs16913434 | 9        | 110488445   | C            | 0.00496 |
| rs10116332 | 9        | 110595461   | A            | 0.00497 |
| rs4339712 | 9          | 110627972   | G            | 0.00801 |
| rs13296942 | 9        | 110643188   | G            | 0.01438 |
| rs10114192 | 9        | 110661885   | A            | 0.01172 |
| SNP     | Chr | Genotype | MAF |
|---------|-----|----------|-----|
| rs7048295 | 9   | 110993528 | A   | 0.00668 |
| rs10979805 | 9   | 111092056 | T   | 0.00702 |
| rs7857453  | 9   | 111394619 | C   | 0.00367 |
| rs2025878  | 9   | 111561356 | C   | 0.00531 |
| rs3983508  | 9   | 111617994 | C   | 0.00846 |
| rs1327535  | 9   | 112175998 | C   | 0.00166 |
| rs10980446 | 9   | 112364717 | G   | 0.00321 |
| rs498102   | 9   | 112633720 | T   | 0.01602 |
| rs866624   | 9   | 113127517 | T   | 0.00243 |
| rs6477821  | 9   | 113184850 | G   | 0.01437 |
| rs10739343 | 9   | 114121319 | G   | 0.00862 |
| rs10817406 | 9   | 114722537 | T   | 0.00910 |
| rs12350676 | 9   | 114111100 | T   | 0.01131 |
| rs4979354  | 9   | 116013576 | T   | 0.01527 |
| rs999599   | 9   | 116051416 | T   | 0.00458 |
| rs4979454  | 9   | 116495996 | G   | 0.00399 |
| rs1272041  | 9   | 116895328 | C   | 0.01191 |
| rs955387   | 9   | 117031013 | A   | 0.00191 |
| rs3119587  | 9   | 117046393 | T   | 0.00198 |
| rs1414153  | 9   | 117082174 | T   | 0.00317 |
| rs1989766  | 9   | 117212106 | G   | 0.00219 |
| rs4979530  | 9   | 117246596 | A   | 0.00375 |
| rs1858731  | 9   | 117290615 | A   | 0.00890 |
| rs1450194  | 9   | 117771594 | C   | 0.00591 |
| rs10983186 | 9   | 118275387 | C   | 0.01256 |
| rs2900132  | 9   | 118449459 | T   | 0.00946 |
| rs10983314 | 9   | 118514893 | T   | 0.01635 |
| rs10983319 | 9   | 118523287 | T   | 0.00821 |
| rs2182552  | 9   | 118660584 | T   | 0.00292 |
| rs11788987 | 9   | 118717375 | T   | 0.01476 |
| rs10983479 | 9   | 118856060 | A   | 0.01143 |
| rs10983560 | 9   | 118983612 | G   | 0.01001 |
| rs10983577 | 9   | 119028228 | C   | 0.01237 |
| rs10983650 | 9   | 119229592 | T   | 0.00215 |
| rs1415377  | 9   | 119231794 | G   | 0.00865 |
| rs4481682  | 9   | 119603089 | A   | 0.00268 |
| rs1573082  | 9   | 120102558 | T   | 0.00239 |
| rs10984106 | 9   | 120394320 | T   | 0.00271 |
| rs10115939 | 9   | 120458542 | T   | 0.01504 |
| rsID       | Chromosome | Position   | Allele1 | Allele2 | P-value |
|------------|------------|------------|---------|---------|---------|
| rs4440690  | 9          | 120478857  | T       |         | 0.00363 |
| rs10984298 | 9          | 120710357  | G       |         | 0.00087 |
| rs10984333 | 9          | 120751241  | C       |         | 0.01196 |
| rs4512453  | 9          | 120763836  | A       |         | 0.00506 |
| rs724975   | 9          | 120828533  | G       |         | 0.00621 |
| rs1571903  | 9          | 121047881  | A       |         | 0.00523 |
| rs1221139  | 9          | 121073375  | G       |         | 0.01040 |
| rs1412067  | 9          | 121207062  | C       |         | 0.01403 |
| rs7032141  | 9          | 121293819  | G       |         | 0.01528 |
| rs12343913 | 9          | 121525825  | A       |         | 0.00463 |
| rs846825   | 9          | 122133808  | G       |         | 0.00600 |
| rs1098498  | 9          | 122179045  | C       |         | 0.00639 |
| rs17343890 | 9          | 122389520  | A       |         | 0.01036 |
| rs7022941  | 9          | 122907291  | C       |         | 0.00235 |
| rs10984333 | 9          | 123075201  | G       |         | 0.00188 |
| rs7022103  | 9          | 123732934  | A       |         | 0.01337 |
| rs10985462 | 9          | 123749107  | G       |         | 0.00501 |
| rs11999461 | 9          | 123761759  | T       |         | 0.01609 |
| rs10513388 | 9          | 123856819  | C       |         | 0.01292 |
| rs3818638  | 9          | 123946544  | C       |         | 0.00338 |
| rs3808899  | 9          | 124032645  | G       |         | 0.01022 |
| rs10818653 | 9          | 124039773  | C       |         | 0.00600 |
| rs10760215 | 9          | 124044926  | A       |         | 0.00835 |
| rs10760220 | 9          | 124065983  | A       |         | 0.00210 |
| rs494760   | 9          | 126688749  | T       |         | 0.01012 |
| rs16929673 | 9          | 126425430  | G       |         | 0.00929 |
| rs12341193 | 9          | 126659263  | A       |         | 0.00465 |
| rs10818977 | 9          | 126269939  | C       |         | 0.01183 |
| rs4076333  | 9          | 126425430  | A       |         | 0.00161 |
| rs16927388 | 9          | 12659263   | A       |         | 0.00465 |
| rs10987613 | 9          | 129165005  | A       |         | 0.01018 |
| rs4837072  | 9          | 129181435  | G       |         | 0.00797 |
| rs16929673 | 9          | 128995383  | A       |         | 0.00124 |
| rs869455   | 9          | 130329421  | C       |         | 0.01560 |
| rs10760563 | 9          | 130343343  | C       |         | 0.00139 |
| rs2297771  | 9          | 130377664  | C       |         | 0.01160 |
| rs7041665  | 9          | 130830966  | T       |         | 0.00231 |
| rs          | Chromosome | Position  | Allele | Minor Allele Frequency |
|-------------|------------|-----------|--------|------------------------|
| rs2480448   | 9          | 13036536  | G      | 0.00652                |
| rs10118527  | 9          | 131202291 | G      | 0.00253                |
| rs4837375   | 9          | 131333483 | C      | 0.01475                |
| rs1220667   | 9          | 131390342 | T      | 0.01631                |
| rs6478924   | 9          | 131706896 | G      | 0.00229                |
| rs41354949  | 9          | 131969858 | T      | 0.00305                |
| rs7855331   | 9          | 132252642 | T      | 0.00138                |
| rs11243976  | 9          | 132478315 | T      | 0.00003                |
| rs353541    | 9          | 133004762 | C      | 0.01155                |
| rs518457    | 9          | 133175299 | A      | 0.00691                |
| rs3765543   | 9          | 133448145 | T      | 0.00960                |
| rs2282009   | 9          | 133485790 | G      | 0.00276                |
| rs12375830  | 9          | 133487679 | G      | 0.00802                |
| rs6597515   | 9          | 133522233 | C      | 0.00720                |
| rs1571832   | 9          | 133987802 | G      | 0.00937                |
| rs2296869   | 9          | 134162233 | T      | 0.00532                |
| rs2296870   | 9          | 134162486 | C      | 0.01065                |
| rs2296871   | 9          | 134163506 | A      | 0.00971                |
| rs11243737  | 9          | 134218427 | G      | 0.00497                |
| rs7021144   | 9          | 134372019 | G      | 0.01197                |
| rs518457    | 9          | 134376336 | A      | 0.01177                |
| rs1999121   | 9          | 134592548 | G      | 0.00150                |
| rs12550888  | 9          | 134595260 | A      | 0.00941                |
| rs1179037   | 9          | 135228330 | A      | 0.00639                |
| rs764897    | 9          | 135933825 | G      | 0.01264                |
| rs3132288   | 9          | 136481319 | A      | 0.00099                |
| rs2989733   | 9          | 136963614 | T      | 0.00328                |
| rs10858305  | 9          | 136998239 | G      | 0.01173                |
| rs11793918  | 9          | 137012668 | T      | 0.00872                |
| rs13290953  | 9          | 137026781 | G      | 0.01088                |
| rs684270    | 9          | 137083746 | C      | 0.00967                |
| rs10858336  | 9          | 137144989 | C      | 0.01442                |
| rs11790027  | 9          | 137148064 | A      | 0.01539                |
| rs11103796  | 9          | 137321049 | C      | 0.00862                |
| rs11103291  | 9          | 138087620 | A      | 0.01333                |
| rs11145861  | 9          | 138408197 | T      | 0.01192                |
| rs950078    | 9          | 139586637 | G      | 0.01133                |
| rs10867070  | 9          | 139805843 | C      | 0.00158                |
| rs9777369   | 9          | 140138244 | T      | 0.01073                |
| rs11253253  | 10         | 611653    | A      | 0.00674                |
| rs11253424  | 10         | 803426    | C      | 0.00663                |
| rs11253441  | 10         | 818288    | T      | 0.01337                |
| rs11817793  | 10         | 868895    | T      | 0.00247                |
| rs11250267  | 10         | 1146487   | G      | 0.00492                |
| SNP          | Chromosome | Position | Allele | P-value |
|--------------|------------|----------|--------|---------|
| rs2805575    | 10         | 1394665  | G      | 0.00090 |
| rs2813381    | 10         | 1610625  | T      | 0.00832 |
| rs7086346    | 10         | 1655821  | C      | 0.01644 |
| rs11250832   | 10         | 1888716  | T      | 0.00658 |
| rs11250839   | 10         | 1892367  | C      | 0.00640 |
| rs4077784    | 10         | 1892429  | A      | 0.00052 |
| rs10794794   | 10         | 1892670  | T      | 0.00210 |
| rs1010571    | 10         | 2016408  | G      | 0.00360 |
| rs17158677   | 10         | 2394079  | T      | 0.01372 |
| rs12265744   | 10         | 2484461  | T      | 0.01620 |
| rs11251389   | 10         | 2624260  | G      | 0.00823 |
| rs17158687   | 10         | 2629540  | T      | 0.01421 |
| rs705478     | 10         | 3572348  | C      | 0.00742 |
| rs7911947    | 10         | 3599546  | G      | 0.00836 |
| rs2171302    | 10         | 3805292  | G      | 0.00824 |
| rs11252540   | 10         | 4486210  | T      | 0.01447 |
| rs12782979   | 10         | 4377643  | G      | 0.00824 |
| rs11252655   | 10         | 4710626  | A      | 0.00813 |
| rs1159077    | 10         | 3937069  | A      | 0.01055 |
| rs7350412    | 10         | 3942714  | T      | 0.00491 |
| rs11251468   | 10         | 2756759  | G      | 0.00906 |
| rs11251469   | 10         | 2756921  | G      | 0.00100 |
| rs2502073    | 10         | 2974699  | A      | 0.00054 |
| rs10904000   | 10         | 3297540  | T      | 0.01421 |
| rs10904310   | 10         | 4683318  | A      | 0.00994 |
| rs11251448   | 10         | 2747555  | G      | 0.01077 |
| rs11251469   | 10         | 2756921  | G      | 0.00100 |
| rs12782979   | 10         | 4377643  | G      | 0.00824 |
| rs11252540   | 10         | 4486210  | T      | 0.01447 |
| rs10904310   | 10         | 4683318  | T      | 0.00613 |
| rs11252655   | 10         | 4710626  | A      | 0.00813 |
| rs1159077    | 10         | 3937069  | A      | 0.01055 |
| rs7350412    | 10         | 3942714  | T      | 0.00491 |
| rs11251468   | 10         | 2756759  | G      | 0.00906 |
| rs1159077    | 10         | 3937069  | A      | 0.01055 |
| rs4572033    | 10         | 3946173  | C      | 0.00411 |
| rs12782979   | 10         | 4377643  | G      | 0.00824 |
| rs11252540   | 10         | 4486210  | T      | 0.01447 |
| rs10904310   | 10         | 4683318  | A      | 0.00994 |
| rs7071257    | 10         | 4916008  | G      | 0.00534 |
| rs1090432    | 10         | 5058113  | G      | 0.00296 |
| rs4881394    | 10         | 5103711  | A      | 0.00701 |
| rs2298305    | 10         | 5129886  | T      | 0.00228 |
| rs4077511    | 10         | 5568172  | G      | 0.00431 |
| rs7896428    | 10         | 5685039  | A      | 0.00122 |
| rs7071257    | 10         | 4916008  | G      | 0.00534 |
| rs10904392   | 10         | 5058113  | G      | 0.00296 |
| rs4881394    | 10         | 5103711  | A      | 0.00701 |
| rs2298305    | 10         | 5129886  | T      | 0.00228 |
| rs4077511    | 10         | 5568172  | G      | 0.00431 |
| rs7896428    | 10         | 5685039  | A      | 0.00122 |
| rs7071257    | 10         | 4916008  | G      | 0.00534 |
| rs10904392   | 10         | 5058113  | G      | 0.00296 |
| SNP          | Chromosome Position | Allele | P-value |
|--------------|---------------------|--------|---------|
| rs11254759   | 10                  | 6897313 A | 0.01043 |
| rs11254798   | 10                  | 6922666 A | 0.01663 |
| rs11254836   | 10                  | 6955867 G | 0.01287 |
| rs12261850   | 10                  | 6996192 G | 0.01575 |
| rs7912259    | 10                  | 7012861 G | 0.01553 |
| rs11254934   | 10                  | 7076900 A | 0.01309 |
| rs10905087   | 10                  | 7082276 G | 0.01261 |
| rs9423765    | 10                  | 7152082 G | 0.00850 |
| rs7906988    | 10                  | 7194153 A | 0.00644 |
| rs7912259    | 10                  | 7194927 G | 0.00833 |
| rs10905087   | 10                  | 7202570 G | 0.00017 |
| rs2245977    | 10                  | 7568727 G | 0.00431 |
| rs2388139    | 10                  | 7576313 T | 0.01076 |
| rs7904080    | 10                  | 7672592 G | 0.00451 |
| rs2182652    | 10                  | 7775882 C | 0.00608 |
| rs4001985    | 10                  | 8590996 G | 0.01656 |
| rs4747803    | 10                  | 8632827 A | 0.01517 |
| rs11255804   | 10                  | 8747207 A | 0.00285 |
| rs7912831    | 10                  | 8771261 G | 0.00071 |
| rs1243411    | 10                  | 9009808 T | 0.00194 |
| rs6602348    | 10                  | 9051752 T | 0.01619 |
| rs41341945   | 10                  | 9062844 C | 0.00131 |
| rs2760206    | 10                  | 9141442 A | 0.01517 |
| rs17145188   | 10                  | 9148524 A | 0.00409 |
| rs17145278   | 10                  | 9212297 C | 0.00573 |
| rs10905523   | 10                  | 9244955 T | 0.00561 |
| rs11256103   | 10                  | 9255068 G | 0.01066 |
| rs1001019    | 10                  | 9283791 T | 0.00916 |
| rs12269159   | 10                  | 9425092 A | 0.00606 |
| rs1762766    | 10                  | 9444181 T | 0.00011 |
| rs2477043    | 10                  | 9449003 C | 0.00862 |
| rs4749869    | 10                  | 9557144 A | 0.00217 |
| rs4749871    | 10                  | 9557305 T | 0.00616 |
| rs10905607   | 10                  | 9783187 C | 0.01665 |
| rs2050775    | 10                  | 9975691 T | 0.01555 |
| rs11256530   | 10                  | 10289903 G | 0.01485 |
| rs7896224    | 10                  | 10513853 T | 0.01303 |
| rs9651524    | 10                  | 10608975 G | 0.00863 |
| rs6602466    | 10                  | 10997996 G | 0.00989 |
| rs2773490    | 10                  | 11162621 C | 0.00757 |
| rs1291822    | 10                  | 11176509 A | 0.00019 |
| rs7917066    | 10                  | 11435230 A | 0.00513 |
| rs2440100    | 10                  | 11484876 T | 0.00725 |
| rs2440110    | 10                  | 11494638 A | 0.00519 |
| rsID     | Chromosome | Position | Allele | P-value |
|----------|------------|----------|--------|---------|
| rs2455596| 10         | 11505909 | A      | 0.01252 |
| rs10008  | 10         | 11646301 | A      | 0.01165 |
| rs12217971| 10        | 12378632 | G      | 0.00735 |
| rs11257707| 10        | 12404212 | G      | 0.00800 |
| rs2768428| 10         | 12563135 | A      | 0.01546 |
| rs2648707| 10         | 12651393 | C      | 0.00571 |
| rs10732936| 10        | 12673372 | T      | 0.01054 |
| rs11258001| 10        | 12889254 | A      | 0.00243 |
| rs10906228| 10        | 12889796 | A      | 0.00078 |
| rs11258009| 10        | 12895162 | G      | 0.00153 |
| rs10906308| 10        | 13210473 | T      | 0.01167 |
| rs10906317| 10        | 13247283 | C      | 0.00539 |
| rs7073480 | 10         | 13254166 | C      | 0.01544 |
| rs10508463| 10        | 13724849 | G      | 0.00408 |
| rs11258494| 10        | 13725082 | G      | 0.00573 |
| rs10508465| 10        | 13725194 | T      | 0.01354 |
| rs4626964 | 10         | 13725557 | C      | 0.01604 |
| rs13005  | 10         | 13725772 | T      | 0.01482 |
| rs7088464 | 10         | 13923957 | T      | 0.00696 |
| rs17154458| 10        | 14108506 | C      | 0.01220 |
| rs11258843| 10        | 14140238 | A      | 0.00516 |
| rs7095572 | 10         | 14158090 | T      | 0.00900 |
| rs968273 | 10         | 14168566 | A      | 0.00946 |
| rs17154745| 10        | 14236892 | G      | 0.00019 |
| rs7095401 | 10         | 14298284 | A      | 0.00823 |
| rs654608 | 10         | 14468478 | T      | 0.00401 |
| rs11259166| 10        | 14620338 | T      | 0.00977 |
| rs11259193| 10        | 14651316 | C      | 0.01034 |
| rs10906752| 10        | 14818107 | G      | 0.01037 |
| rs2601735 | 10         | 14867137 | C      | 0.01350 |
| rs12218679| 10        | 15398069 | T      | 0.00093 |
| rs11259651| 10        | 15504677 | A      | 0.01355 |
| rs7905319 | 10         | 15837204 | C      | 0.00755 |
| rs4748231 | 10         | 16056279 | A      | 0.01289 |
| rs17138511| 10        | 16466321 | T      | 0.00681 |
| rs7082220 | 10         | 16469618 | T      | 0.00874 |
| rs7899419 | 10         | 16751463 | T      | 0.01527 |
| rs7921270 | 10         | 17081765 | G      | 0.00868 |
| rs5009752 | 10         | 17344934 | A      | 0.01258 |
| rs359288  | 10         | 17370186 | A      | 0.00398 |
| rs10508553| 10         | 18270265 | A      | 0.01617 |
| SNP     | Chromosome | Position | Allele | Frequency |
|---------|------------|----------|--------|-----------|
| rs2357782 | 10         | 18354073 | A      | 0.00901   |
| rs11598236 | 10        | 18491890 | C      | 0.00752   |
| rs12413195 | 10        | 18510335 | C      | 0.00745   |
| rs1277767 | 10         | 18538404 | C      | 0.00343   |
| rs1779246 | 10         | 18546917 | C      | 0.00411   |
| rs1556116 | 10         | 19195087 | C      | 0.00858   |
| rs7083348 | 10         | 19382092 | C      | 0.01258   |
| rs6481814 | 10         | 19547938 | C      | 0.00897   |
| rs2499065 | 10         | 19612735 | G      | 0.00362   |
| rs11009410 | 10        | 19641830 | C      | 0.01409   |
| rs11009595 | 10        | 19684979 | T      | 0.01580   |
| rs1591345 | 10         | 19685245 | T      | 0.00695   |
| rs7097302 | 10         | 19733181 | A      | 0.00825   |
| rs1926204 | 10         | 20283648 | T      | 0.00552   |
| rs7922905 | 10         | 20534950 | C      | 0.01060   |
| rs16920092 | 10        | 20540598 | G      | 0.01289   |
| rs7073927 | 10         | 20556872 | T      | 0.00849   |
| rs7074175 | 10         | 20556984 | T      | 0.00461   |
| rs11012058 | 10        | 20796893 | C      | 0.01245   |
| rs4437938 | 10         | 22381427 | C      | 0.00336   |
| rs11012989 | 10        | 22748913 | A      | 0.01122   |
| rs6482213 | 10         | 22764104 | G      | 0.00534   |
| rs7914254 | 10         | 22780965 | A      | 0.00781   |
| rs2154053 | 10         | 22977766 | T      | 0.00817   |
| rs4748822 | 10         | 23136360 | C      | 0.00341   |
| rs7899968 | 10         | 23204056 | A      | 0.00820   |
| rs17440393 | 10        | 23277574 | A      | 0.01095   |
| rs11013210 | 10        | 23289115 | T      | 0.00702   |
| rs986151  | 10         | 23518621 | C      | 0.00664   |
| rs2137157 | 10         | 23765898 | C      | 0.00729   |
| rs6482286 | 10         | 23808903 | A      | 0.01481   |
| rs17504419 | 10        | 24547825 | T      | 0.00706   |
| rs16924755 | 10        | 24763665 | T      | 0.01356   |
| rs12358959 | 10        | 25573016 | C      | 0.00852   |
| rs1329255 | 10         | 25821413 | T      | 0.00380   |
| rs7072700 | 10         | 25828641 | C      | 0.01525   |
| rs10828810 | 10        | 25828674 | C      | 0.00232   |
| rs7899012 | 10         | 25881321 | T      | 0.00744   |
| rs4747532 | 10         | 25905769 | G      | 0.00108   |
| rs11014625 | 10        | 25909549 | T      | 0.00862   |
| rs11014632 | 10        | 25917657 | A      | 0.00548   |
| rs7904360 | 10         | 26244985 | C      | 0.00603   |
| rs787031  | 10         | 26837384 | T      | 0.00110   |
| SNP      | Chromosome Position | rsID   | rsID   | Allele  | p-Value |
|----------|---------------------|--------|--------|---------|---------|
| rs4749184 | 10 27060574          | T      | 0.01236|
| rs796781  | 10 27295757          | T      | 0.00902|
| rs11015433| 10 27296142          | G      | 0.00225|
| rs16927781| 10 27709485          | T      | 0.00099|
| rs532473  | 10 27709661          | T      | 0.00257|
| rs1413895 | 10 27722150          | C      | 0.00328|
| rs17060   | 10 27722495          | C      | 0.01470|
| rs702380  | 10 27922831          | T      | 0.01209|
| rs1908274 | 10 27946218          | T      | 0.01384|
| rs12414929| 10 28498769          | A      | 0.00290|
| rs11007102| 10 28760828          | G      | 0.00554|
| rs17692012| 10 29085027          | T      | 0.01099|
| rs7918685 | 10 29175932          | C      | 0.00290|
| rs501561  | 10 29407769          | G      | 0.01442|
| rs2211397 | 10 29590393          | A      | 0.00429|
| rs2488264 | 10 29609361          | A      | 0.01132|
| rs10673702| 10 29621792          | G      | 0.01099|
| rs10673704| 10 29626489          | A      | 0.00532|
| rs16930161| 10 29643626          | G      | 0.01051|
| rs789913  | 10 29975784          | A      | 0.01356|
| rs11007683| 10 30081073          | T      | 0.00041|
| rs1247097 | 10 30654280          | A      | 0.00349|
| rs10826786| 10 30680405          | G      | 0.00887|
| rs8176983 | 10 30771645          | T      | 0.00981|
| rs8176984 | 10 30771666          | A      | 0.00884|
| rs7074198 | 10 30901965          | G      | 0.00146|
| rs4362058 | 10 30902073          | G      | 0.00966|
| rs16931828| 10 30990752          | G      | 0.01481|
| rs17295402| 10 31094110          | T      | 0.00909|
| rs7910849 | 10 31144546          | G      | 0.00320|
| rs11008296| 10 31199671          | A      | 0.00218|
| rs2487457 | 10 31383794          | C      | 0.01452|
| rs7075638 | 10 31871836          | T      | 0.00774|
| rs1100826 | 10 32522055          | T      | 0.00314|
| rs2505382 | 10 32801068          | A      | 0.00663|
| rs16933616| 10 33021367          | C      | 0.01230|
| rs7088801 | 10 33408650          | A      | 0.00668|
| rs11009228| 10 33433860          | T      | 0.00035|
| rs2812617 | 10 34113351          | T      | 0.01401|
| rs1692708 | 10 34461560          | C      | 0.00282|
| rs10827330| 10 34464515          | T      | 0.01131|
| rs1148242 | 10 34481223          | C      | 0.01186|
| rsID     | Chromosome | Position   | Allele | P-value |
|----------|------------|------------|--------|---------|
| rs642099 | 10         | 34513449   | C      | 0.00217 |
| rs678188 | 10         | 34535295   | G      | 0.00634 |
| rs11009685 | 10       | 34551996   | C      | 0.00512 |
| rs1111267 | 10        | 34567393   | T      | 0.00771 |
| rs664538  | 10         | 34617703   | A      | 0.01297 |
| rs977677  | 10         | 36130658   | C      | 0.00429 |
| rs1819748 | 10         | 36267393   | T      | 0.00530 |
| rs315604  | 10         | 36535755   | C      | 0.00898 |
| rs2122723 | 10         | 36591137   | T      | 0.00771 |
| rs664538  | 10         | 36617703   | A      | 0.01297 |
| rs977677  | 10         | 36899882   | G      | 0.00089 |
| rs1819748 | 10         | 37212810   | T      | 0.00911 |
| rs1200820 | 10         | 37599485   | C      | 0.00803 |
| rs1200826 | 10         | 37604993   | G      | 0.00751 |
| rs10740944 | 10       | 37932950   | C      | 0.00110 |
| rs289642  | 10         | 37981342   | A      | 0.00779 |
| rs2505830 | 10         | 42155347   | G      | 0.01585 |
| rs2744070 | 10         | 42693206   | A      | 0.01619 |
| rs788261  | 10         | 42757976   | G      | 0.01204 |
| rs1864403 | 10         | 42924956   | T      | 0.01456 |
| rs7909314 | 10         | 43667069   | C      | 0.00751 |
| rs11238994 | 10       | 44149211   | C      | 0.00794 |
| rs928565  | 10         | 44152890   | T      | 0.01471 |
| rs1253718 | 10         | 44282888   | T      | 0.01432 |
| rs1572202 | 10         | 44330166   | C      | 0.00950 |
| rs17157832 | 10       | 45281767   | C      | 0.01228 |
| rs4979664 | 10         | 46505309   | G      | 0.00850 |
| rs750211  | 10         | 47062190   | A      | 0.00307 |
| rs7069401 | 10         | 47067457   | A      | 0.00791 |
| rs11259760 | 10       | 47110611   | G      | 0.00989 |
| rs4385821 | 10         | 47120957   | C      | 0.01147 |
| rs9325886 | 10         | 48032343   | T      | 0.00872 |
| rs704717  | 10         | 48221906   | C      | 0.01443 |
| rs10857548 | 10       | 49088476   | T      | 0.00524 |
| rs10857580 | 10       | 49356390   | A      | 0.00331 |
| rs6537565 | 10         | 49382078   | G      | 0.01315 |
| rs12768835 | 10       | 49646975   | A      | 0.00440 |
| rs6537576 | 10         | 49649839   | T      | 0.00285 |
| rs11101474 | 10       | 49651442   | C      | 0.01589 |
| rs12242220 | 10       | 49698112   | T      | 0.01387 |
| rs2620891 | 10         | 49699711   | G      | 0.01013 |
| rs10857650 | 10       | 49700029   | A      | 0.00623 |
| rs3747878 | 10         | 49702487   | C      | 0.00469 |
| rs7922169 | 10         | 49715462   | G      | 0.01434 |
| SNP       | Chromosome | Base Position | Allele | P-Value   |
|-----------|------------|---------------|--------|-----------|
| rs2620887 | 10         | 49730508      | T      | 0.00685   |
| rs2671713 | 10         | 49761168      | A      | 0.00210   |
| rs2671711 | 10         | 49764792      | G      | 0.01152   |
| rs12248178| 10         | 49765425      | C      | 0.00624   |
| rs1475256 | 10         | 50287769      | G      | 0.00828   |
| rs4253077 | 10         | 50392975      | A      | 0.00896   |
| rs2671711 | 10         | 50491249      | T      | 0.00094   |
| rs6481116 | 10         | 50494123      | G      | 0.01530   |
| rs12248178| 10         | 50512030      | A      | 0.00292   |
| rs10822095| 10         | 50512030      | G      | 0.01341   |
| rs7914943 | 10         | 52398619      | C      | 0.01122   |
| rs7076364 | 10         | 52405002      | A      | 0.01481   |
| rs2816836 | 10         | 52422379      | G      | 0.00087   |
| rs2816835 | 10         | 52422640      | T      | 0.00370   |
| rs10995339| 10         | 52437180      | T      | 0.00247   |
| rs7895755 | 10         | 52444506      | G      | 0.00521   |
| rs10822867| 10         | 52815711      | T      | 0.00104   |
| rs17529748| 10         | 52833546      | T      | 0.00673   |
| rs17531066| 10         | 52870282      | T      | 0.01392   |
| rs10508944| 10         | 52919580      | G      | 0.01347   |
| rs10997802| 10         | 52926845      | T      | 0.00673   |
| rs1952138 | 10         | 52932639      | G      | 0.01187   |
| rs10733839| 10         | 52971456      | G      | 0.00419   |
| rs17629265| 10         | 53215988      | A      | 0.00126   |
| rs1099898 | 10         | 53308102      | A      | 0.01045   |
| rs7093940 | 10         | 53380226      | G      | 0.00888   |
| rs11001444| 10         | 53712562      | G      | 0.00962   |
| rs11001909| 10         | 53836193      | T      | 0.00569   |
| rs7916982 | 10         | 54395856      | C      | 0.00288   |
| rs7915769 | 10         | 54426191      | T      | 0.00442   |
| rs6480996 | 10         | 54566822      | T      | 0.00613   |
| rs2384124 | 10         | 54567756      | A      | 0.01367   |
| rs12571782| 10         | 54568138      | C      | 0.00071   |
| rs2133469 | 10         | 54907251      | A      | 0.00928   |
| rs2610891 | 10         | 55412724      | G      | 0.01459   |
| rs2610873 | 10         | 55483294      | A      | 0.01577   |
| rs7919046 | 10         | 55659436      | C      | 0.00570   |
| rs1937393 | 10         | 56062569      | C      | 0.00521   |
| rs6481116 | 10         | 56106514      | C      | 0.00515   |
| rs11004466| 10         | 56142441      | C      | 0.01206   |
| rs10825383| 10         | 56143760      | C      | 0.01173   |
| rs11004473 | 10 | 56144916 | T | 0.00965 |
| rs11004515 | 10 | 56162216 | T | 0.00893 |
| rs12772404 | 10 | 56577310 | C | 0.00904 |
| rs11004781 | 10 | 56658060 | T | 0.00994 |
| rs11004794 | 10 | 56699129 | A | 0.00585 |
| rs12772404 | 10 | 56577310 | C | 0.00904 |
| rs11004973 | 10 | 57127236 | G | 0.00875 |
| rs7902926  | 10 | 57304818 | T | 0.00886 |
| rs7897632  | 10 | 57390788 | A | 0.00875 |
| rs2131967  | 10 | 57391103 | G | 0.00875 |
| rs10825680 | 10 | 57391868 | A | 0.00049 |
| rs10763287 | 10 | 57424570 | A | 0.00010 |
| rs4384321  | 10 | 57448762 | G | 0.01025 |
| rs4384322  | 10 | 57448789 | G | 0.00955 |
| rs12098738 | 10 | 58057613 | A | 0.01309 |
| rs2818836  | 10 | 58340522 | A | 0.01619 |
| rs11817479 | 10 | 58380039 | A | 0.01634 |
| rs2055552  | 10 | 58636677 | T | 0.00774 |
| rs4623821  | 10 | 58998686 | A | 0.00673 |
| rs12245596 | 10 | 59487103 | C | 0.00142 |
| rs1759320  | 10 | 59507178 | G | 0.00713 |
| rs2486489  | 10 | 59746059 | C | 0.00458 |
| rs10740740 | 10 | 60052500 | G | 0.01229 |
| rs16912750 | 10 | 60298325 | C | 0.00161 |
| rs282674   | 10 | 60313342 | A | 0.01207 |
| rs7477459  | 10 | 60671321 | C | 0.00172 |
| rs7069283  | 10 | 60809191 | A | 0.00484 |
| rs7903343  | 10 | 60811072 | A | 0.01506 |
| rs7907910  | 10 | 61016383 | T | 0.00804 |
| rs10821582 | 10 | 61148825 | G | 0.01574 |
| rs2271564  | 10 | 61224012 | G | 0.01482 |
| rs1664278  | 10 | 61364310 | T | 0.01228 |
| rs6479674  | 10 | 61372270 | C | 0.01530 |
| rs10994219 | 10 | 61572095 | A | 0.01397 |
| rs7087489  | 10 | 61615937 | C | 0.00860 |
| rs10994285 | 10 | 61685013 | T | 0.01200 |
| rs2393673  | 10 | 62020372 | T | 0.00575 |
| rs1372711  | 10 | 62100671 | T | 0.01614 |
| rs2448353  | 10 | 62228617 | A | 0.01072 |
| rs2893863  | 10 | 62276790 | G | 0.00540 |
| rs7907823  | 10 | 62569407 | A | 0.00519 |
| rs2393855  | 10 | 62725471 | G | 0.00564 |
| rs7914904  | 10 | 62749969 | A | 0.00535 |
| rs2257189  | 10 | 62988025 | G | 0.01383 |
| rs          | Chromosome | Position | Allele | P-value |
|-------------|------------|----------|--------|---------|
| rs7904285   | 10         | 63135734 | G      | 0.01585 |
| rs2588929   | 10         | 63294506 | C      | 0.01454 |
| rs7896430   | 10         | 63560965 | A      | 0.01012 |
| rs3999112   | 10         | 63854651 | G      | 0.01130 |
| rs11598789  | 10         | 63881646 | A      | 0.00243 |
| rs4745820   | 10         | 63923050 | G      | 0.01251 |
| rs6479828   | 10         | 64045356 | C      | 0.00703 |
| rs7915131   | 10         | 64088662 | A      | 0.00780 |
| rs41474946  | 10         | 64311736 | A      | 0.01091 |
| rs10740095  | 10         | 64343487 | A      | 0.01208 |
| rs4746783   | 10         | 64421047 | T      | 0.00863 |
| rs11817689  | 10         | 64594223 | C      | 0.01512 |
| rs9415699   | 10         | 64813564 | C      | 0.00654 |
| rs16918507  | 10         | 64915681 | T      | 0.00491 |
| rs6479906   | 10         | 64985492 | C      | 0.00169 |
| rs34816265  | 10         | 65276055 | G      | 0.00223 |
| rs10509200  | 10         | 65296567 | A      | 0.00170 |
| rs1916463   | 10         | 65364778 | G      | 0.00590 |
| rs2394039   | 10         | 65538104 | A      | 0.00626 |
| rs7920723   | 10         | 65876810 | A      | 0.00204 |
| rs10740160  | 10         | 65980512 | A      | 0.00190 |
| rs9414877   | 10         | 66481119 | C      | 0.00358 |
| rs876057    | 10         | 66650986 | G      | 0.00358 |
| rs10996304  | 10         | 66676003 | A      | 0.00109 |
| rs7906982   | 10         | 66681694 | C      | 0.01511 |
| rs9415814   | 10         | 6689678 | G      | 0.01071 |
| rs7902125   | 10         | 66951266 | T      | 0.01026 |
| rs12572984  | 10         | 67121576 | T      | 0.00552 |
| rs17235168  | 10         | 67158318 | C      | 0.00503 |
| rs17239782  | 10         | 67337001 | A      | 0.00320 |
| rs1670159   | 10         | 67337138 | A      | 0.00952 |
| rs1786923   | 10         | 67359195 | C      | 0.00486 |
| rs3907196   | 10         | 67555997 | A      | 0.00108 |
| rs1911303   | 10         | 67896186 | C      | 0.00081 |
| rs10997295  | 10         | 68107621 | T      | 0.00208 |
| rs10997544  | 10         | 68599245 | A      | 0.01497 |
| rs9415871   | 10         | 68786426 | A      | 0.00993 |
| rs12251833  | 10         | 68814645 | A      | 0.00610 |
| rs10740277  | 10         | 68848215 | A      | 0.01080 |
| rs10997908  | 10         | 69451202 | G      | 0.01001 |
| rs10997963  | 10         | 69591909 | A      | 0.00735 |
| rs7097776   | 10         | 69605065 | C      | 0.01467 |
| rs4746738   | 10         | 69629843 | T      | 0.00021 |
| rs10998184  | 10         | 69883970 | T      | 0.00881 |
| SNP   | Chromosome | Position  | Allele | P-value |
|-------|------------|-----------|--------|---------|
| rs10998185 | 10 | 69884059  | T      | 0.00155 |
| rs2457458  | 10 | 69939971  | T      | 0.00211 |
| rs1472814   | 10 | 70673618  | G      | 0.00232 |
| rs10762276  | 10 | 70722475  | G      | 0.01643 |
| rs1227960   | 10 | 70975162  | G      | 0.00868 |
| rs3903038   | 10 | 70994937  | A      | 0.01249 |
| rs899022    | 10 | 71063502  | A      | 0.01104 |
| rs2812498   | 10 | 71089580  | T      | 0.01393 |
| rs10999156  | 10 | 71573023  | A      | 0.01273 |
| rs7905657   | 10 | 71618793  | G      | 0.00935 |
| rs12253651  | 10 | 71779052  | G      | 0.01282 |
| rs2688772   | 10 | 72180269  | G      | 0.00075 |
| rs10458653  | 10 | 72369768  | A      | 0.00469 |
| rs17542297  | 10 | 72444914  | G      | 0.00973 |
| rs7911202   | 10 | 7258955   | C      | 0.00341 |
| rs4747164   | 10 | 72966441  | C      | 0.00557 |
| rs7094357   | 10 | 73126384  | G      | 0.01300 |
| rs1099960   | 10 | 73127923  | T      | 0.00763 |
| rs1100019   | 10 | 73261536  | A      | 0.00089 |
| rs12253630  | 10 | 74439830  | A      | 0.00105 |
| rs16930466  | 10 | 7467594   | C      | 0.01149 |
| rs2633320   | 10 | 75363312  | A      | 0.00214 |
| rs4746196   | 10 | 75749022  | G      | 0.00022 |
| rs16931798  | 10 | 76311368  | A      | 0.00107 |
| rs4746261   | 10 | 7651638   | C      | 0.01177 |
| rs17434565  | 10 | 77276161  | C      | 0.01569 |
| rs1998455   | 10 | 77321920  | G      | 0.01144 |
| rs12256878  | 10 | 77331129  | T      | 0.00729 |
| rs11001571  | 10 | 77432249  | G      | 0.00760 |
| rs12416389  | 10 | 78070714  | G      | 0.01659 |
| rs1247755   | 10 | 78467676  | G      | 0.01401 |
| rs11002078  | 10 | 78632821  | G      | 0.00587 |
| rs1468037   | 10 | 79022041  | A      | 0.01147 |
| rs2812429   | 10 | 79222683  | G      | 0.01348 |
| rs1720300   | 10 | 79688026  | A      | 0.00593 |
| rs41385044  | 10 | 79782991  | A      | 0.00353 |
| rs11002621  | 10 | 80090444  | T      | 0.00263 |
| rs252826    | 10 | 80104652  | T      | 0.00779 |
| rs11002745  | 10 | 80370924  | C      | 0.00826 |
| rs16936716  | 10 | 80445237  | T      | 0.00829 |
| rs2490275   | 10 | 80632417  | T      | 0.00391 |
| rs4980054   | 10 | 80691847  | G      | 0.00728 |
| rs16937080  | 10 | 80764708  | T      | 0.00375 |
| rs2105461   | 10 | 80771685  | G      | 0.00232 |
| SNP      | Chromosome | Position   | Allele | p-value |
|----------|------------|------------|--------|---------|
| rs1892498| 10         | 80773868   | A      | 0.00667 |
| rs4246944| 10         | 80775690   | C      | 0.00945 |
| rs12360384| 10        | 80852808   | A      | 0.01634 |
| rs4255480| 10         | 81725868   | G      | 0.00913 |
| rs11201269| 10        | 81779567   | G      | 0.00075 |
| rs4478933| 10         | 81801652   | C      | 0.01023 |
| rs12360384| 10        | 80852808   | A      | 0.01634 |
| rs4255480| 10         | 81725868   | G      | 0.00913 |
| rs11201269| 10        | 81779567   | G      | 0.00075 |
| rs4478933| 10         | 81801652   | C      | 0.01023 |
| rs12360384| 10        | 80852808   | A      | 0.01634 |
| rs4255480| 10         | 81725868   | G      | 0.00913 |
| rs11201269| 10        | 81779567   | G      | 0.00075 |
| rs4478933| 10         | 81801652   | C      | 0.01023 |
| SNP          | Ch | Start   | End     | Alleles | P       |
|-------------|----|---------|---------|---------|---------|
| rs2490311   | 10 | 92246543| T       | 0.01296 |
| rs7917422   | 10 | 92483177| G       | 0.00474 |
| rs10881990  | 10 | 93647416| G       | 0.01190 |
| rs11186792  | 10 | 93756295| C       | 0.00493 |
| rs2185834   | 10 | 93824133| G       | 0.00068 |
| rs17449755  | 10 | 94659511| T       | 0.00087 |
| rs835238    | 10 | 94745188| T       | 0.00011 |
| rs7917422   | 10 | 95063036| T       | 0.01145 |
| rs10786198  | 10 | 9506288 | A       | 0.00682 |
| rs3814150   | 10 | 95061507| C       | 0.01492 |
| rs7084339   | 10 | 95366036| A       | 0.01116 |
| rs17110617  | 10 | 95366036| G       | 0.01578 |
| rs4606419   | 10 | 9693207 | C       | 0.00154 |
| rs6584123   | 10 | 99122073| C       | 0.00283 |
| rs4917792   | 10 | 99677879| C       | 0.00545 |
| rs4919164   | 10 | 99681340| G       | 0.01004 |
| rs1413618   | 10 | 99878119| A       | 0.01627 |
| rs928579    | 10 | 99878333| A       | 0.01038 |
| rs10748721  | 10 | 99989333| A       | 0.01373 |
| rs3750595   | 10 | 99994896| T       | 0.01293 |
| rs1925636   | 10 | 10047697| G       | 0.00586 |
| rs11189910  | 10 | 10071769| T       | 0.01574 |
| rs7924025   | 10 | 10079515| G       | 0.00539 |
| rs1342580   | 10 | 10082771| G       | 0.01096 |
| rs1954295   | 10 | 10087353| C       | 0.01622 |
| rs10883299  | 10 | 10096759| G       | 0.01060 |
| rs7899146   | 10 | 10104738| A       | 0.00530 |
| rs10786538  | 10 | 10109470| A       | 0.00362 |
| rs4917870   | 10 | 10125035| A       | 0.00621 |
| rs1035210   | 10 | 10133540| T       | 0.01636 |
| rs11190643  | 10 | 10242270| G       | 0.01100 |
| rs10786601  | 10 | 10244550| T       | 0.01304 |
| rs7082923   | 10 | 102458016|       | 0.01457 |
| rs7090429   | 10 | 102766388|       | 0.00711 |
| rs7099531   | 10 | 102819186|       | 0.00154 |
| rs11190913  | 10 | 103049028|       | 0.00933 |
| rs10883648  | 10 | 103175171|       | 0.00864 |
| rs4244350   | 10 | 103998741|       | 0.00413 |
| rs812799    | 10 | 104026345|       | 0.00699 |
| rs772021    | 10 | 104026439|       | 0.01230 |
| SNP      | Chromosome | Position | Allele | P-value |
|----------|------------|----------|--------|---------|
| rs3781287| 10         | 104585410| C      | 0.01121 |
| rs10883826| 10        | 104820809| G      | 0.00056 |
| rs1570220| 10         | 105551877| T      | 0.00346 |
| rs7902587| 10         | 105684291| A      | 0.01115 |
| rs156699 | 10         | 106043631| C      | 0.01444 |
| rs10491046| 10        | 106060991| G      | 0.01113 |
| rs11192008| 10        | 106079416| A      | 0.00939 |
| rs10491046| 10        | 106083976| T      | 0.00941 |
| rs10883991| 10        | 106087576| C      | 0.00947 |
| rs7902587| 10         | 106245876| T      | 0.01615 |
| rs11192321| 10        | 106262575| T      | 0.00960 |
| rs10884103| 10        | 106887944| C      | 0.00113 |
| rs7906336| 10         | 107064722| C      | 0.00056 |
| rs6584676| 10         | 107137682| A      | 0.01368 |
| rs876183 | 10         | 107467567| C      | 0.01022 |
| rs903799 | 10         | 107689216| A      | 0.00673 |
| rs550165 | 10         | 10790209| A      | 0.01300 |
| rs11192739| 10        | 107908905| T      | 0.00220 |
| rs10884268| 10        | 107938899| T      | 0.01595 |
| rs821693 | 10         | 108110180| A      | 0.00788 |
| rs12773375| 10        | 108124091| T      | 0.00429 |
| rs7088535| 10         | 108288081| A      | 0.00992 |
| rs17121023| 10        | 108342175| A      | 0.00343 |
| rs11817663| 10        | 108354299| A      | 0.00626 |
| rs821925 | 10         | 108432009| C      | 0.00894 |
| rs821958 | 10         | 108445133| C      | 0.01153 |
| rs7099998| 10         | 108918548| C      | 0.01300 |
| rs7082331| 10         | 108918701| T      | 0.00640 |
| rs10884426| 10        | 108918890| G      | 0.00395 |
| rs1822155| 10         | 109347069| T      | 0.00435 |
| rs2418979| 10         | 109527084| C      | 0.00746 |
| rs17227554| 10        | 109571175| G      | 0.01386 |
| rs17325365| 10        | 109571479| G      | 0.00909 |
| rs2551821| 10         | 109582725| T      | 0.01508 |
| rs317442 | 10         | 109930822| T      | 0.01036 |
| rs161016 | 10         | 110029605| T      | 0.00357 |
| rs11194050| 10        | 110120004| T      | 0.01094 |
| rs17124681| 10        | 110253292| A      | 0.01422 |
| rs2039385| 10         | 110344709| A      | 0.01178 |
| rs1332260| 10         | 110366810| C      | 0.01568 |
| rs12412977| 10        | 110384900| T      | 0.01310 |
| rs17783561| 10        | 110961425| A      | 0.00545 |
| rs10884712| 10        | 110970055| A      | 0.00513 |
| rs   | Chromosome | Location      | Allele | P-Value |
|------|------------|---------------|--------|---------|
| rs3888122 | 10        | 110994544     | C      | 0.01313 |
| rs11194511 | 10        | 110998503     | C      | 0.00281 |
| rs830062  | 10        | 111021967     | A      | 0.01335 |
| rs11194562 | 10        | 111084275     | A      | 0.00319 |
| rs7920353 | 10        | 111103117     | C      | 0.00111 |
| rs612155  | 10        | 111620721     | G      | 0.00479 |
| rs944966  | 10        | 111648324     | G      | 0.00090 |
| rs12768489 | 10       | 111699868     | A      | 0.01399 |
| rs10884954 | 10       | 112121472     | T      | 0.00749 |
| rs4918508 | 10        | 112144100     | A      | 0.00436 |
| rs4918546 | 10        | 112384883     | C      | 0.00280 |
| rs7906643 | 10        | 112535484     | A      | 0.01601 |
| rs12245104 | 10       | 112876728     | T      | 0.01292 |
| rs10509936 | 10       | 113026683     | C      | 0.00692 |
| rs10749065 | 10       | 113030534     | G      | 0.01591 |
| rs10885262 | 10       | 113520074     | C      | 0.00475 |
| rs11195730 | 10       | 113547792     | A      | 0.00891 |
| rs11195768 | 10       | 113709954     | C      | 0.01226 |
| rs10509959 | 10       | 114045499     | G      | 0.00997 |
| rs1887136  | 10        | 114065189     | T      | 0.00375 |
| rs7087000  | 10        | 114092662     | G      | 0.01392 |
| rs11195939 | 10        | 114132094     | T      | 0.01176 |
| rs2306158  | 10        | 114182275     | C      | 0.01056 |
| rs12268627 | 10       | 114332265     | C      | 0.01076 |
| rs12254159 | 10       | 114332350     | A      | 0.00782 |
| rs4132670  | 10        | 114757761     | G      | 0.00767 |
| rs12243326 | 10       | 114778805     | A      | 0.01136 |
| rs2788175  | 10        | 115051438     | A      | 0.00137 |
| rs3127098  | 10        | 115387123     | C      | 0.01580 |
| rs2227310  | 10        | 115479142     | C      | 0.00371 |
| rs2419879  | 10        | 115512165     | T      | 0.01579 |
| rs7071578  | 10        | 115533315     | C      | 0.01160 |
| rs11197072 | 10        | 116876309     | C      | 0.00649 |
| rs17093112 | 10        | 117214465     | A      | 18.95600 |
| rs2804235  | 10        | 117368593     | C      | 0.00859 |
| rs12219110 | 10        | 117417474     | C      | 0.00007 |
| rs10490919 | 10        | 117502578     | A      | 0.01389 |
| rs7070267  | 10        | 117853324     | C      | 0.01212 |
| rs2532681  | 10        | 118039749     | C      | 0.00441 |
| rs11197640 | 10        | 118121372     | C      | 0.00075 |
| rs3781566  | 10        | 118638831     | A      | 0.00981 |
| rs7094283  | 10        | 118808539     | G      | 0.00014 |
| rs10787753 | 10        | 118819674     | G      | 0.00481 |
| rs3847483  | 10        | 118949003     | T      | 0.01339 |
| SNP       | SNP ID | Chromosome | Position | Allele 1 | Allele 2 | p-value |
|-----------|--------|------------|----------|----------|----------|---------|
| rs3858335 |        | 10         | 118963135| A        |          | 0.01416 |
| rs17095891|        | 10         | 118963546| T        |          | 0.00461 |
| rs363226  |        | 10         | 119015202| G        |          | 0.00910 |
| rs181628  |        | 10         | 119354660| C        |          | 0.00782 |
| rs10886156|        | 10         | 119599068| G        |          | 0.01192 |
| rs2928119 |        | 10         | 119783607| G        |          | 0.00423 |
| rs7921175 |        | 10         | 119981748| G        |          | 0.00378 |
| rs1199250 |        | 10         | 12014524 | G        |          | 0.00233 |
| rs10886674|        | 10         | 12016262 | G        |          | 0.00221 |
| rs2463134 |        | 10         | 12193457 | G        |          | 0.00665 |
| rs978854  |        | 10         | 12229202 | A        |          | 0.00082 |
| rs7913157 |        | 10         | 12234243| A        |          | 0.00074 |
| rs2420789 |        | 10         | 12234370| G        |          | 0.01578 |
| rs1199499 |        | 10         | 12244198 | A        |          | 0.00963 |
| rs1199540 |        | 10         | 12252083| G        |          | 0.01139 |
| rs2997307 |        | 10         | 12255106| T        |          | 0.00468 |
| rs7901805 |        | 10         | 12256141| A        |          | 0.00279 |
| rs10788134|        | 10         | 12270685| C        |          | 0.01280 |
| rs17510577|        | 10         | 12271249| A        |          | 0.00248 |
| rs7911360 |        | 10         | 12279537| T        |          | 0.01660 |
| rs899480  |        | 10         | 12293625| G        |          | 0.00573 |
| rs7896111 |        | 10         | 12293679| C        |          | 0.00325 |
| rs1199860 |        | 10         | 12301023| C        |          | 0.01500 |
| rs10788165|        | 10         | 12303420| C        |          | 0.00941 |
| rs7913694 |        | 10         | 12308517| T        |          | 0.00268 |
| rs2420929 |        | 10         | 12314316| C        |          | 0.01642 |
| rs2912753 |        | 10         | 12324739| T        |          | 0.00049 |
| rs7068354 |        | 10         | 12340093| T        |          | 0.00535 |
| rs3862129 |        | 10         | 12357396| G        |          | 0.00517 |
| rs1200257 |        | 10         | 12366673| T        |          | 0.01527 |
| rs1200277 |        | 10         | 12369380| G        |          | 0.00695 |
| rs7906271 |        | 10         | 12369771| C        |          | 0.00601 |
| rs10887032|        | 10         | 12370539| C        |          | 0.00093 |
| rs11200440|        | 10         | 12390816| T        |          | 0.01163 |
| rs10887101|        | 10         | 12394879| C        |          | 0.00951 |
| rs1885512 |        | 10         | 12401942| G        |          | 0.00781 |
| rs1998345 |        | 10         | 12411429| G        |          | 0.00071 |
| rs11200640|        | 10         | 12421407| G        |          | 0.00635 |
| rs4638251 |        | 10         | 12462881| G        |          | 0.01305 |
| rs10794589|        | 10         | 12482372| A        |          | 0.00272 |
| rs11248390|        | 10         | 12484153| A        |          | 0.00291 |
| rs913524  |        | 10         | 12507462| T        |          | 0.01215 |
| SNP       | Chromosome | Position     | Allele | Minor Allele Frequency |
|-----------|------------|--------------|--------|------------------------|
| rs6599688 | 10         | 125088556    | G      | 0.01087                |
| rs1887821 | 10         | 125104041    | C      | 0.01058                |
| rs845076  | 10         | 125169174    | G      | 0.01040                |
| rs11592288| 10         | 125300489    | T      | 0.00118                |
| rs7908279 | 10         | 125300650    | T      | 0.00207                |
| rs1710960 | 10         | 125322821    | G      | 0.00831                |
| rs7084727 | 10         | 125441198    | A      | 0.01058                |
| rs1896392 | 10         | 125516679    | A      | 0.00016                |
| rs7099115 | 10         | 126158000    | C      | 0.01065                |
| rs7086481 | 10         | 126834513    | T      | 0.00176                |
| rs10794001| 10         | 127166639    | A      | 0.00757                |
| rs9422941 | 10         | 127362741    | A      | 0.01466                |
| rs9804381 | 10         | 127400272    | A      | 0.00012                |
| rs6597725 | 10         | 127409227    | A      | 0.00676                |
| rs7898112 | 10         | 127622475    | A      | 0.00480                |
| rs11244772| 10         | 127701286    | G      | 0.01573                |
| rs2290842 | 10         | 127776959    | A      | 0.00419                |
| rs1674919 | 10         | 127836118    | A      | 0.01660                |
| rs10901564| 10         | 127908604    | G      | 0.00781                |
| rs1025641 | 10         | 128297182    | C      | 0.01189                |
| rs17155051| 10         | 128300416    | A      | 4.22500                |
| rs7908838 | 10         | 128380793    | T      | 0.00540                |
| rs10901734| 10         | 128544642    | A      | 0.00410                |
| rs1931744 | 10         | 129218811    | G      | 0.00384                |
| rs4080381 | 10         | 129240631    | A      | 0.00548                |
| rs4750910 | 10         | 129421165    | T      | 0.01060                |
| rs2148895 | 10         | 129582283    | A      | 0.01071                |
| rs11018411| 10         | 129636049    | C      | 0.01581                |
| rs2096285 | 10         | 129769690    | C      | 0.00900                |
| rs10764747| 10         | 129778717    | C      | 0.01109                |
| rs11016137| 10         | 129920175    | G      | 0.00053                |
| rs10829385| 10         | 130034129    | C      | 0.01585                |
| rs7923707 | 10         | 130057287    | C      | 0.01617                |
| rs7915042 | 10         | 130104355    | G      | 0.00243                |
| rs748309  | 10         | 130346934    | A      | 0.00684                |
| rs11016473| 10         | 130450043    | T      | 0.00532                |
| rs4751013 | 10         | 130529288    | A      | 0.01498                |
| rs16908896| 10         | 130690756    | A      | 0.00438                |
| rs10764876| 10         | 131016364    | G      | 0.01236                |
| rs945226  | 10         | 131239246    | A      | 0.00740                |
| rs4751111 | 10         | 131392985    | C      | 0.00162                |
| rs4751158 | 10         | 131700143    | A      | 0.00156                |
| rs10764939| 10         | 131881129    | G      | 0.00197                |
| rs16910188| 10         | 131881171    | T      | 0.01549                |
| rs       | chr | position  | allele | p-value  |
|----------|-----|-----------|--------|----------|
| rs1410906| 10  | 131897272 | C      | 0.00298  |
| rs431131 | 10  | 132068996 | C      | 0.00353  |
| rs7084067| 10  | 132069411 | C      | 0.00376  |
| rs411620 | 10  | 132071257 | T      | 0.00361  |
| rs359058 | 10  | 132108798 | A      | 0.01143  |
| rs880832 | 10  | 132118628 | A      | 0.00183  |
| rs400803 | 10  | 132160832 | G      | 0.01591  |
| rs431690 | 10  | 132160885 | C      | 0.01557  |
| rs11017270| 10   | 132165808 | A      | 0.00775  |
| rs402807 | 10  | 132173058 | G      | 0.00934  |
| rs426715 | 10  | 132177561 | T      | 12.84700 |
| rs10764960| 10   | 132187763 | C      | 0.01617  |
| rs11597270| 10   | 132205806 | T      | 12.84700 |
| rs6482809 | 10  | 132206587 | A      | 0.00408  |
| rs7911511 | 10  | 132215151 | A      | 0.01439  |
| rs11597303| 10  | 132263195 | A      | 0.01087  |
| rs10764994| 10  | 132550279 | A      | 0.00352  |
| rs1655156 | 10  | 132565500 | C      | 0.01409  |
| rs4751296 | 10  | 132578074 | T      | 0.00157  |
| rs7074195 | 10  | 132611226 | C      | 0.00917  |
| rs2397738 | 10  | 132628747 | T      | 0.00728  |
| rs892322  | 10  | 132630798 | C      | 0.00169  |
| rs10829854| 10  | 132641908 | T      | 0.01621  |
| rs11017622| 10  | 132661360 | T      | 0.00247  |
| rs11017623| 10  | 132661446 | C      | 0.00217  |
| rs10458719| 10  | 132704704 | C      | 0.00124  |
| rs12245418| 10  | 132774327 | G      | 0.00283  |
| rs10829909| 10  | 132818897 | G      | 0.01553  |
| rs7075041 | 10  | 132884640 | G      | 0.00547  |
| rs2918126 | 10  | 132894396 | G      | 0.00494  |
| rs11594412| 10  | 133033946 | G      | 0.00303  |
| rs10765092| 10  | 133250389 | C      | 0.00897  |
| rs7074167 | 10  | 133251032 | G      | 0.01062  |
| rs11599194| 10  | 133346672 | A      | 0.00359  |
| rs4388799 | 10  | 133389715 | A      | 0.01155  |
| rs9418987 | 10  | 135174399 | G      | 0.00105  |
| rs7924341 | 11   | 3430343  | C      | 0.00088  |
| rs11246342| 11   | 896708   | G      | 0.00670  |
| rs10794281| 11   | 1053149  | G      | 0.01456  |
| rs4881740 | 11   | 1476557  | T      | 0.00514  |
| rs17834326| 11   | 1708562  | T      | 0.01010  |
| rs498337  | 11   | 1811147  | T      | 0.00034  |
| rs4930030 | 11   | 2043796  | A      | 0.01332  |
| SNP         | Chromosome | Position | Allele | P-value |
|-------------|------------|----------|--------|---------|
| rs179409    | 11         | 2483882  | C      | 0.01546 |
| rs2237866   | 11         | 2486738  | C      | 0.01069 |
| rs4758587   | 11         | 3376078  | G      | 0.01095 |
| rs2672215   | 11         | 3648225  | A      | 0.01386 |
| rs2672216   | 11         | 3648600  | G      | 0.01173 |
| rs10836005  | 11         | 4374063  | A      | 0.00654 |
| rs2566269   | 11         | 4525601  | T      | 0.00478 |
| rs2641404   | 11         | 4534717  | C      | 0.01211 |
| rs17227484  | 11         | 4750458  | A      | 0.00847 |
| rs11034685  | 11         | 4902921  | T      | 0.01122 |
| rs11035648  | 11         | 5073531  | C      | 0.01152 |
| rs10836005  | 11         | 5145420  | A      | 0.00118 |
| rs11602279  | 11         | 5166168  | T      | 0.01308 |
| rs16930808  | 11         | 5407670  | G      | 0.00152 |
| rs2133258   | 11         | 5723239  | C      | 0.00929 |
| rs4388914   | 11         | 5824164  | C      | 0.01304 |
| rs4628655   | 11         | 6151051  | A      | 0.01166 |
| rs2067022   | 11         | 6716101  | C      | 0.00115 |
| rs7947196   | 11         | 6749489  | C      | 0.01571 |
| rs10839617  | 11         | 6749646  | C      | 0.00332 |
| rs10839628  | 11         | 6826194  | G      | 0.00595 |
| rs2741774   | 11         | 6840789  | C      | 0.00486 |
| rs10839695  | 11         | 7010743  | G      | 0.00074 |
| rs766497    | 11         | 7214147  | C      | 0.01474 |
| rs10839781  | 11         | 7403545  | T      | 0.00099 |
| rs10839814  | 11         | 7545167  | T      | 0.01256 |
| rs4372441   | 11         | 7613835  | G      | 0.01151 |
| rs11041504  | 11         | 7632155  | A      | 0.00652 |
| rs4758330   | 11         | 8285769  | A      | 0.01569 |
| rs10840120  | 11         | 8758194  | T      | 0.01209 |
| rs3763904   | 11         | 9031596  | T      | 0.00618 |
| rs7127387   | 11         | 9038237  | C      | 0.01598 |
| rs397686    | 11         | 9706221  | C      | 0.00677 |
| rs7120754   | 11         | 9755312  | A      | 0.01638 |
| rs360124    | 11         | 9758804  | C      | 0.00966 |
| rs1546542   | 11         | 9857034  | T      | 0.01133 |
| rs17294693  | 11         | 10189289 | C      | 0.01375 |
| rs11601268  | 11         | 10473410 | A      | 0.00690 |
| rs41464450  | 11         | 10558098 | G      | 0.01599 |
| rs10840501  | 11         | 10830511 | G      | 0.01310 |
| rs1872696   | 11         | 10967280 | T      | 0.00935 |
| rs1386152   | 11         | 10986547 | T      | 0.00934 |
| rs10500737 | 11 | 11002835 | G | 0.01569 |
| rs17429624 | 11 | 11082825 | C | 0.01350 |
| rs4296033 | 11 | 11512829 | A | 0.00538 |
| rs7121652 | 11 | 11547422 | A | 0.01017 |
| rs1455252 | 11 | 11710726 | G | 0.00750 |
| rs8169 | 11 | 11941430 | T | 0.00357 |
| rs10741565 | 11 | 11969776 | A | 0.00243 |
| rs2172469 | 11 | 12001084 | C | 0.01179 |
| rs6845494 | 11 | 12105716 | G | 0.00224 |
| rs4644628 | 11 | 12125877 | C | 0.01033 |
| rs16911154 | 11 | 1230256 | C | 0.00475 |
| rs16911159 | 11 | 12330765 | G | 0.00338 |
| rs11022394 | 11 | 12508937 | C | 0.01147 |
| rs12292638 | 11 | 12581803 | A | 0.01038 |
| rs16911719 | 11 | 12872809 | G | 0.00766 |
| rs12276434 | 11 | 12956732 | C | 0.00659 |
| rs10500770 | 11 | 13053050 | T | 0.01216 |
| rs2165484 | 11 | 13056122 | T | 0.00411 |
| rs11022636 | 11 | 13057878 | T | 0.00144 |
| rs2583136 | 11 | 13059500 | T | 0.00348 |
| rs4451711 | 11 | 13077526 | C | 0.00110 |
| rs3849154 | 11 | 13081100 | C | 0.00327 |
| rs3849161 | 11 | 13138194 | A | 0.00865 |
| rs2593579 | 11 | 13435415 | A | 0.01658 |
| rs10500785 | 11 | 1350459 | A | 0.01043 |
| rs11022899 | 11 | 13578990 | A | 0.00801 |
| rs10832081 | 11 | 13581879 | C | 0.00813 |
| rs12420514 | 11 | 1361373 | A | 0.01559 |
| rs12786409 | 11 | 13625777 | T | 0.01630 |
| rs471396 | 11 | 13891504 | G | 0.00939 |
| rs10766122 | 11 | 13910145 | A | 0.01630 |
| rs11821106 | 11 | 14029178 | T | 0.00512 |
| rs7131289 | 11 | 14034447 | G | 0.01331 |
| rs11023437 | 11 | 15086889 | C | 0.00261 |
| rs11023472 | 11 | 15196467 | C | 0.01060 |
| rs1714336 | 11 | 15201694 | A | 0.01641 |
| rs10832454 | 11 | 15475924 | A | 0.00815 |
| rs2351097 | 11 | 15516762 | G | 0.01542 |
| rs12578054 | 11 | 15613167 | T | 0.00564 |
| rs11827785 | 11 | 15627009 | C | 0.01346 |
| rs16931985 | 11 | 15747400 | A | 0.00609 |
| rs11023757 | 11 | 15858795 | G | 0.00345 |
| rs2615016 | 11 | 15909119 | C | 0.01085 |
| rs10832554 | 11 | 16148859 | G | 0.00736 |
| SNP          | Chromosome | Position | Allele | P-value |
|-------------|------------|----------|--------|---------|
| rs297325    | 11         | 16346170 | T      | 0.01016 |
| rs1847315   | 11         | 16365152 | T      | 0.00910 |
| rs12221729  | 11         | 16389040 | C      | 0.01024 |
| rs7932807   | 11         | 16394987 | G      | 0.00987 |
| rs10500830  | 11         | 1641827 | G      | 0.01535 |
| rs4325274   | 11         | 16580482 | C      | 0.00708 |
| rs4756858   | 11         | 16626773 | T      | 0.00548 |
| rs12577088  | 11         | 16820873 | G      | 0.00165 |
| rs11024074  | 11         | 16873795 | T      | 0.00585 |
| rs10766360  | 11         | 16926330 | A      | 0.00260 |
| rs2883150   | 11         | 16931362 | G      | 0.00869 |
| rs4757484   | 11         | 16982316 | C      | 0.00041 |
| rs7933984   | 11         | 16985321 | T      | 0.01568 |
| rs10832733  | 11         | 17067848 | A      | 0.01235 |
| rs7110037   | 11         | 17337608 | G      | 0.00020 |
| rs2190454   | 11         | 17490211 | T      | 0.00323 |
| rs7101870   | 11         | 17681539 | T      | 0.00802 |
| rs2445206   | 11         | 18134918 | A      | 0.01221 |
| rs11024502  | 11         | 18135024 | A      | 0.01151 |
| rs10832896  | 11         | 18153416 | A      | 0.00251 |
| rs2468772   | 11         | 18156255 | A      | 0.00610 |
| rs2445174   | 11         | 18220412 | C      | 0.00899 |
| rs11024757  | 11         | 18649263 | T      | 0.00664 |
| rs1962511   | 11         | 19077252 | T      | 0.00568 |
| rs10833134  | 11         | 19584103 | G      | 0.00190 |
| rs12574517  | 11         | 19644968 | C      | 0.00780 |
| rs7927862   | 11         | 19647564 | C      | 0.00009 |
| rs16937251  | 11         | 19911770 | G      | 0.00492 |
| rs2568118   | 11         | 19962028 | T      | 0.00008 |
| rs7120486   | 11         | 20836106 | T      | 0.01610 |
| rs9633845   | 11         | 21042666 | C      | 0.01600 |
| rs1945334   | 11         | 21784474 | C      | 0.01198 |
| rs16908613  | 11         | 21807233 | A      | 0.01282 |
| rs1009809   | 11         | 21818153 | G      | 0.01484 |
| rs428209    | 11         | 21981697 | C      | 0.01114 |
| rs1379649   | 11         | 21982053 | A      | 0.01554 |
| rs10766916  | 11         | 22056773 | A      | 0.01599 |
| rs12278342  | 11         | 22840459 | G      | 0.00124 |
| rs2429772   | 11         | 22863000 | A      | 0.00155 |
| rs2429752   | 11         | 22875997 | T      | 2.19200 |
| rs2403793   | 11         | 22957547 | A      | 0.01100 |
| rs7112339   | 11         | 23169551 | C      | 0.01080 |
| rs1600957   | 11         | 23180811 | T      | 0.00904 |
| SNP       | Chromosome | Position  | Allele | p-value |
|-----------|------------|-----------|--------|---------|
| rs1482735 | 11         | 23192822  | C      | 0.00552 |
| rs11027195| 11         | 23369209  | T      | 0.01265 |
| rs2403952 | 11         | 24458489  | A      | 0.00005 |
| rs16913066| 11         | 24680874  | T      | 0.00153 |
| rs2716548 | 11         | 24734687  | G      | 0.00622 |
| rs1486698 | 11         | 24758224  | G      | 0.00312 |
| rs1838773 | 11         | 25045288  | T      | 0.00130 |
| rs11028415| 11         | 25070842  | A      | 0.00421 |
| rs2404026 | 11         | 25109057  | A      | 0.01223 |
| rs10742069| 11         | 25143560  | A      | 0.00357 |
| rs7107300 | 11         | 25143952  | A      | 0.00880 |
| rs2105941 | 11         | 25273068  | C      | 0.00476 |
| rs17242433| 11         | 25581002  | C      | 0.00747 |
| rs17242498| 11         | 25603897  | C      | 0.00974 |
| rs11028885| 11         | 25714362  | A      | 0.00319 |
| rs1389421 | 11         | 25840913  | C      | 0.01295 |
| rs9413568 | 11         | 25862285  | T      | 0.01277 |
| rs10834856| 11         | 25909353  | C      | 0.01193 |
| rs1441486 | 11         | 25909416  | T      | 0.00255 |
| rs16914910| 11         | 25910098  | C      | 0.00477 |
| rs380170  | 11         | 26531206  | C      | 0.00196 |
| rs4532991 | 11         | 27089107  | C      | 0.00079 |
| rs920698  | 11         | 27151203  | T      | 0.01599 |
| rs7938462 | 11         | 27154937  | C      | 0.01239 |
| rs11029891| 11         | 27225055  | T      | 0.01200 |
| rs1488831 | 11         | 27593590  | T      | 0.00043 |
| rs10835218| 11         | 27736226  | G      | 0.01048 |
| rs2582898 | 11         | 28447264  | C      | 0.00564 |
| rs11030810| 11         | 29751547  | G      | 0.00081 |
| rs559877  | 11         | 30490141  | G      | 0.00449 |
| rs10835683| 11         | 30511777  | A      | 0.00097 |
| rs208102  | 11         | 31124115  | G      | 0.00107 |
| rs1806156 | 11         | 31796992  | A      | 0.00999 |
| rs11031526| 11         | 31878381  | G      | 0.01386 |
| rs11031557| 11         | 32009995  | T      | 0.00175 |
| rs11031630| 11         | 32153509  | T      | 0.01647 |
| rs5030310 | 11         | 32367816  | T      | 0.01158 |
| rs201879  | 11         | 32565979  | G      | 0.01551 |
| rs201905  | 11         | 32595768  | C      | 0.00439 |
| rs11031940| 11         | 32676726  | A      | 0.00314 |
| rs1486582 | 11         | 32680449  | G      | 0.01504 |
| rs9943472 | 11         | 32730565  | G      | 0.00043 |
| rs7102857 | 11         | 32779010  | G      | 0.01504 |
| SNP       | Chromosome | Position  | Allele  | P-value |
|-----------|------------|-----------|---------|---------|
| rs2615923 | 11         | 33351118  | T       | 0.01099 |
| rs10501129| 11         | 33376740  | G       | 0.00072 |
| rs4756683 | 11         | 33400163  | A       | 0.00994 |
| rs2756289 | 11         | 33494074  | A       | 0.00049 |
| rs1402953 | 11         | 33727790  | C       | 0.00825 |
| rs11032380| 11         | 33757109  | T       | 0.01355 |
| rs2473929 | 11         | 34130872  | T       | 0.00471 |
| rs2955948 | 11         | 34210736  | C       | 0.00034 |
| rs7934453 | 11         | 34388230  | A       | 0.00279 |
| rs11032695| 11         | 34404162  | A       | 0.00534 |
| rs7122374 | 11         | 35219600  | G       | 0.01510 |
| rs716961  | 11         | 35482454  | C       | 0.01516 |
| rs601295  | 11         | 36014659  | A       | 0.00684 |
| rs755727  | 11         | 37088830  | C       | 0.01156 |
| rs996977  | 11         | 37106373  | A       | 0.01440 |
| rs10501217| 11         | 37263661  | A       | 0.00217 |
| rs7121356 | 11         | 37545471  | T       | 0.01037 |
| rs7946111 | 11         | 37604433  | T       | 0.01023 |
| rs7125108 | 11         | 39619446  | G       | 0.01450 |
| rs10742570| 11         | 40048945  | C       | 0.00837 |
| rs4429048 | 11         | 40149102  | A       | 0.00941 |
| rs1452475 | 11         | 40209482  | C       | 0.00859 |
| rs10734480| 11         | 40241419  | T       | 0.00692 |
| rs1353354 | 11         | 40542692  | G       | 0.01425 |
| rs10837436| 11         | 40542978  | G       | 0.00932 |
| rs11035930| 11         | 40543235  | G       | 0.00683 |
| rs4756605 | 11         | 40572021  | A       | 0.00167 |
| rs11036020| 11         | 40667334  | G       | 0.00767 |
| rs11036035| 11         | 40693286  | T       | 0.01487 |
| rs3226    | 11         | 40839047  | G       | 0.00846 |
| rs16935255| 11         | 40980714  | T       | 0.01456 |
| rs10742570| 11         | 41000401  | T       | 0.01374 |
| rs4631866 | 11         | 41014153  | A       | 0.00389 |
| rs996263  | 11         | 41016901  | T       | 0.00443 |
| rs11036358| 11         | 41304985  | G       | 0.00226 |
| rs11036825| 11         | 42285325  | T       | 0.00772 |
| rs4424659 | 11         | 42302576  | G       | 0.00279 |
| rs10768795| 11         | 42307623  | G       | 0.00901 |
| SNP   | Chr | Location | Allele | P-value |
|-------|-----|----------|--------|---------|
| rs7342195 | 11 | 42846760 | A | 0.01262 |
| rs2067048 | 11 | 43116209 | A | 0.00259 |
| rs2114089 | 11 | 43153254 | G | 0.01279 |
| rs17509794 | 11 | 43436750 | A | 0.00191 |
| rs11602193 | 11 | 43464732 | T | 0.01175 |
| rs546614 | 11 | 43940549 | A | 0.00452 |
| rs10838236 | 11 | 44091183 | T | 0.00242 |
| rs11602193 | 11 | 44098426 | G | 0.00977 |
| rs17509794 | 11 | 44124572 | G | 0.01279 |
| rs1390073 | 11 | 44476554 | T | 0.00914 |
| rs4755782 | 11 | 44725608 | G | 0.00061 |
| rs1037868 | 11 | 44830108 | G | 0.01151 |
| rs10501305 | 11 | 44843130 | T | 0.01058 |
| rs10838382 | 11 | 44877202 | C | 0.01042 |
| rs10769107 | 11 | 45010828 | G | 0.01214 |
| rs2863172 | 11 | 45217918 | T | 0.00775 |
| rs4755941 | 11 | 45233558 | T | 0.00764 |
| rs4755885 | 11 | 45236863 | G | 0.00976 |
| rs861354 | 11 | 45266644 | G | 0.00013 |
| rs3960835 | 11 | 45443807 | G | 0.00150 |
| rs2037311 | 11 | 45830024 | G | 0.00589 |
| rs11038752 | 11 | 45835452 | C | 0.00373 |
| rs12281674 | 11 | 45856538 | G | 0.00746 |
| rs1996573 | 11 | 45931219 | G | 0.00606 |
| rs11038752 | 11 | 46029113 | A | 0.01249 |
| rs2932515 | 11 | 46062264 | A | 0.00518 |
| rs11600292 | 11 | 46915274 | G | 0.00891 |
| rs10769255 | 11 | 47323947 | T | 0.00956 |
| rs17789481 | 11 | 48066619 | G | 0.01174 |
| rs1996573 | 11 | 48229272 | A | 0.00498 |
| rs12365014 | 11 | 48586010 | C | 0.01130 |
| rs1847639 | 11 | 48960517 | C | 0.00960 |
| rs17815807 | 11 | 49154124 | A | 0.00107 |
| rs3960835 | 11 | 49283110 | C | 0.00954 |
| rs17489472 | 11 | 50103012 | C | 0.00920 |
| rs1364762 | 11 | 54954489 | A | 0.00389 |
| rs17494536 | 11 | 55017848 | T | 0.00936 |
| rs7115527 | 11 | 55025431 | A | 0.01028 |
| rs9666744 | 11 | 55033178 | C | 0.00438 |
| rs11828054 | 11 | 55054138 | G | 0.01256 |
| rs17580694 | 11 | 55060775 | G | 0.01218 |
| rs9943519 | 11 | 55235453 | C | 0.01198 |
| rs2127230 | 11 | 55253465 | T | 0.00793 |
| rs10897182 | 11 | 55264743 | A | 0.00591 |
| rs12098903 | 11 | 55423089 | T | 0.00272 |
| rs17596143 | 11 | 55434921 | T | 0.00495 |
| rs17148897 | 11 | 55439287 | T | 0.01119 |
| rs17598094 | 11 | 55465391 | C | 0.00437 |
| rs17602278 | 11 | 55605691 | C | 0.01100 |
| rs10750820 | 11 | 55905598 | C | 0.00933 |
| rs11228775 | 11 | 56298572 | A | 0.00383 |
| rs12272961 | 11 | 56438326 | A | 0.01228 |
| rs1793426 | 11 | 56440326 | G | 0.01651 |
| rs2903267 | 11 | 56713092 | T | 0.00738 |
| rs1943489 | 11 | 56713994 | G | 0.01187 |
| rs518272 | 11 | 56774133 | C | 0.01160 |
| rs10896597 | 11 | 56791325 | A | 0.00762 |
| rs549630 | 11 | 56925282 | C | 0.01180 |
| rs96894 | 11 | 57405819 | G | 0.01549 |
| rs4127345 | 11 | 57812866 | C | 0.00340 |
| rs4529896 | 11 | 57885744 | C | 0.00243 |
| rs11229433 | 11 | 57941912 | T | 0.00433 |
| rs17154146 | 11 | 59300834 | A | 0.00245 |
| rs529933 | 11 | 59530245 | A | 0.00971 |
| rs1303621 | 11 | 59647250 | G | 0.00646 |
| rs650853 | 11 | 59763277 | C | 0.01207 |
| rs2233244 | 11 | 59909107 | T | 0.00740 |
| rs11230420 | 11 | 60120537 | C | 0.00639 |
| rs12280505 | 11 | 60140043 | C | 0.00024 |
| rs2957229 | 11 | 60340498 | A | 0.01450 |
| rs565679 | 11 | 60342231 | C | 0.01387 |
| rs593315 | 11 | 60342652 | T | 0.00717 |
| rs10897118 | 11 | 60352415 | T | 0.00296 |
| rs822246 | 11 | 60360223 | C | 0.01204 |
| rs9667807 | 11 | 60484274 | C | 0.00344 |
| rs2845573 | 11 | 61358484 | C | 0.01601 |
| rs2463829 | 11 | 61845414 | T | 0.01642 |
| rs3110504 | 11 | 61930970 | T | 0.00147 |
| rs1186941 | 11 | 63261225 | T | 0.01131 |
| rs35079323 | 11 | 64425681 | C | 0.01285 |
| rs907629 | 11 | 64596273 | T | 0.01135 |
| SNP       | chr | pos     | ref | alt | p      |
|-----------|-----|---------|-----|-----|--------|
| rs508375  | 11  | 64605528| G   |     | 0.00055|
| rs1193496 | 11  | 65294132| T   |     | 0.00024|
| rs4930346 | 11  | 65750255| C   |     | 0.00970|
| rs2075626 | 11  | 67556502| G   |     | 0.00784|
| rs2123763 | 11  | 68656337| G   |     | 0.00415|
| rs4980635 | 11  | 68976688| C   |     | 0.01153|
| rs587903  | 11  | 69030054| T   |     | 0.01542|
| rs4522197 | 11  | 69258982| A   |     | 0.00873|
| rs10459038| 11  | 70524609| C   |     | 0.00931|
| rs17433007| 11  | 70717451| G   |     | 0.00386|
| rs10897995| 11  | 70729463| G   |     | 0.01094|
| rs11234248| 11  | 70964187| G   |     | 0.00132|
| rs12421579| 11  | 71269938| A   |     | 0.01643|
| rs7113974 | 11  | 71303737| A   |     | 0.00586|
| rs1939243 | 11  | 71420383| G   |     | 0.01366|
| rs4945426 | 11  | 71425794| C   |     | 0.00818|
| rs7109653 | 11  | 71515856| A   |     | 0.00164|
| rs2071010 | 11  | 71578612| T   |     | 0.01578|
| rs1028050 | 11  | 71920909| A   |     | 0.00612|
| rs17132914| 11  | 73674047| T   |     | 0.01002|
| rs472112  | 11  | 74699149| A   |     | 0.00353|
| rs479592  | 11  | 75069880| C   |     | 0.00889|
| rs683941  | 11  | 75124598| A   |     | 0.00643|
| rs684004  | 11  | 75124632| T   |     | 0.01572|
| rs1017713 | 11  | 75177100| A   |     | 0.00612|
| rs12278224| 11  | 75220909| A   |     | 0.00231|
| rs4944092 | 11  | 75587267| T   |     | 0.00260|
| rs10793164| 11  | 75820667| A   |     | 0.00961|
| rs3753051 | 11  | 75934863| G   |     | 0.01074|
| rs1149599 | 11  | 76151353| A   |     | 0.01190|
| rs4945129 | 11  | 76378304| T   |     | 0.00809|
| rs876319  | 11  | 76747452| A   |     | 0.01592|
| rs2725834 | 11  | 76795565| A   |     | 0.00570|
| rs7925252 | 11  | 77024533| G   |     | 0.01436|
| rs603462  | 11  | 77255512| T   |     | 0.01229|
| rs9651740 | 11  | 77423766| T   |     | 0.00694|
| rs590981  | 11  | 77498655| T   |     | 0.01489|
| rs10751296| 11  | 77954925| C   |     | 0.01114|
| rs4457782 | 11  | 77962381| G   |     | 0.00586|
| rs495676  | 11  | 78234108| G   |     | 0.01384|
| rs1961578 | 11  | 78329102| C   |     | 0.01639|
| rs11237782| 11  | 78699911| T   |     | 0.00844|
| rs472870  | 11  | 78766903| C   |     | 0.00609|
| rs580331  | 11  | 78779722| A   |     | 0.00385|
| SNP       | Chromosome | Position   | Allele | P-value |
|-----------|------------|------------|--------|---------|
| rs11237826 | 11         | 78805883   | C      | 0.00319 |
| rs4644672  | 11         | 78852425   | A      | 0.00819 |
| rs11237878 | 11         | 78905159   | A      | 0.00621 |
| rs11237887 | 11         | 78917149   | C      | 0.00259 |
| rs1320725  | 11         | 79167580   | C      | 0.00950 |
| rs642770   | 11         | 79366452   | T      | 0.01623 |
| rs6592876  | 11         | 79401323   | G      | 0.00433 |
| rs12226647 | 11         | 79694440   | G      | 0.01627 |
| rs2448269  | 11         | 79777451   | A      | 0.00611 |
| rs7112033  | 11         | 79777810   | A      | 0.01008 |
| rs2443961  | 11         | 79852287   | C      | 0.01040 |
| rs11232256 | 11         | 80007452   | A      | 0.01633 |
| rs4945452  | 11         | 80292425   | T      | 0.00171 |
| rs2514489  | 11         | 80543007   | T      | 0.00200 |
| rs2514462  | 11         | 80626998   | T      | 0.00357 |
| rs4133164  | 11         | 80878412   | G      | 0.01556 |
| rs1540173  | 11         | 80913682   | C      | 0.00925 |
| rs1894143  | 11         | 80937359   | A      | 0.00786 |
| rs12271406 | 11         | 81236198   | T      | 0.01566 |
| rs664961   | 11         | 81387538   | G      | 0.01499 |
| rs1355974  | 11         | 81765896   | A      | 0.01604 |
| rs1790708  | 11         | 82090827   | T      | 0.00323 |
| rs1939627  | 11         | 82025143   | C      | 0.01252 |
| rs533709   | 11         | 82104086   | A      | 0.01600 |
| rs497360   | 11         | 82111606   | C      | 0.01381 |
| rs2512674  | 11         | 82839423   | C      | 0.01461 |
| rs6592120  | 11         | 82913481   | C      | 0.00960 |
| rs515618   | 11         | 82970299   | G      | 0.00206 |
| rs558211   | 11         | 82974099   | C      | 0.00293 |
| rs10501548 | 11         | 83184528   | A      | 0.01465 |
| rs2449597  | 11         | 83372231   | T      | 0.00914 |
| rs6592177  | 11         | 83745645   | T      | 0.01282 |
| rs17734404 | 11         | 83791078   | T      | 0.00031 |
| rs1826613  | 11         | 84463780   | T      | 0.01458 |
| rs1823777  | 11         | 84463859   | T      | 0.00323 |
| rs185932   | 11         | 84882119   | G      | 0.00272 |
| rs7937794  | 11         | 85556553   | A      | 0.01383 |
| rs7937189  | 11         | 85740973   | A      | 0.00066 |
| rs11605057 | 11         | 86381744   | G      | 0.00695 |
| rs17149657 | 11         | 86404674   | C      | 0.01509 |
| SNP         | Chromosome | Position | Genotype | p-value |
|-------------|------------|----------|----------|---------|
| rs10792929  | 11         | 86643981 | A        | 0.01499 |
| rs7926724   | 11         | 86715213 | A        | 0.01057 |
| rs10751164  | 11         | 86864830 | C        | 0.01226 |
| rs4485130   | 11         | 87104758 | C        | 0.00644 |
| rs594453    | 11         | 87244037 | A        | 0.01170 |
| rs2155105   | 11         | 87312529 | A        | 0.01389 |
| rs10898803  | 11         | 87322406 | T        | 0.01494 |
| rs7926724   | 11         | 86715213 | A        | 0.01057 |
| rs10751164  | 11         | 86864830 | C        | 0.01226 |
| rs4485130   | 11         | 87104758 | C        | 0.00644 |
| rs594453    | 11         | 87244037 | A        | 0.01170 |
| rs2155105   | 11         | 87312529 | A        | 0.01389 |
| rs10898803  | 11         | 87322406 | T        | 0.01494 |
| rs7926724   | 11         | 86715213 | A        | 0.01057 |
| rs10751164  | 11         | 86864830 | C        | 0.01226 |
| rs4485130   | 11         | 87104758 | C        | 0.00644 |
| rs594453    | 11         | 87244037 | A        | 0.01170 |
| rs2155105   | 11         | 87312529 | A        | 0.01389 |
| rs10898803  | 11         | 87322406 | T        | 0.01494 |

...
| SNP ID       | Chromosome | Position   | Allele  | P-value |
|--------------|------------|------------|---------|---------|
| rs4307681    | 11         | 94877302   | C       | 0.00081 |
| rs11021246   | 11         | 94989214   | A       | 0.00672 |
| rs12365735   | 11         | 95008102   | T       | 0.00688 |
| rs10765796   | 11         | 95563368   | C       | 0.00965 |
| rs16923429   | 11         | 95624950   | G       | 0.00144 |
| rs12795536   | 11         | 96176694   | A       | 0.00595 |
| rs577524     | 11         | 96315362   | T       | 0.01294 |
| rs11021246   | 11         | 96315362   | A       | 0.01294 |
| rs1587000    | 11         | 96511512   | C       | 0.01059 |
| rs923887     | 11         | 96543926   | T       | 0.00954 |
| rs12795536   | 11         | 96642470   | A       | 0.00595 |
| rs347768     | 11         | 96761688   | T       | 0.00039 |
| rs347776     | 11         | 96777562   | T       | 0.00954 |
| rs1962941    | 11         | 96877206   | A       | 0.01326 |
| rs649985     | 11         | 97007783   | G       | 0.01087 |
| rs11212290   | 11         | 97061599   | C       | 0.00089 |
| rs10890887   | 11         | 97173551   | A       | 0.01383 |
| rs10789765   | 11         | 97347570   | G       | 0.01058 |
| rs11216033   | 11         | 97962694   | A       | 0.00187 |
| rs9783305    | 11         | 97966670   | G       | 0.01201 |
| rs17132819   | 11         | 98399659   | A       | 0.01278 |
| rs4528296    | 11         | 98598888   | C       | 0.01410 |
| rs7109406    | 11         | 98867701   | C       | 0.00638 |
| rs17134173   | 11         | 99044338   | G       | 0.01035 |
| rs11221224   | 11         | 99128324   | C       | 0.01140 |
| rs10894037   | 11         | 99245527   | A       | 0.00819 |
| rs1812544    | 11         | 99533927   | T       | 0.01337 |
| rs10501961   | 11         | 99846823   | G       | 0.00310 |
| rs11224435   | 11         | 100138874  | C       | 0.00426 |
| rs667504     | 11         | 100221671  | G       | 0.01620 |
| rs10750596   | 11         | 100248072  | T       | 0.00377 |
| rs541463     | 11         | 100488550  | G       | 0.00043 |
| rs10501992   | 11         | 101225143  | A       | 0.01490 |
| rs4315037    | 11         | 101225220  | T       | 0.00471 |
| rs1711437    | 11         | 101970436  | A       | 0.00729 |
| rs1784408    | 11         | 101974197  | C       | 0.01082 |
| rs1711427    | 11         | 101982216  | C       | 0.00916 |
| rs11225417   | 11         | 102141752  | T       | 0.01646 |
| rs11225458   | 11         | 102270618  | A       | 0.01554 |
| rs11225703   | 11         | 102691169  | T       | 0.01237 |
| rs2122776    | 11         | 102897552  | A       | 18.07800 |
| rs10895465   | 11         | 102940124  | A       | 0.00309 |
| rs17405661   | 11         | 103266588  | T       | 0.00077 |
| rs11226303   | 11         | 103700185  | T       | 0.01270 |
| SNP       | Chromosome | Position       | Allele | Minor Allele Frequency |
|-----------|------------|----------------|--------|------------------------|
| rs11226307| 11         | 103713704      | G      | 0.01485                |
| rs4755036 | 11         | 103804161      | C      | 0.01658                |
| rs10791703| 11         | 103836649      | G      | 0.01331                |
| rs1487687 | 11         | 103902520      | G      | 0.00629                |
| rs609552  | 11         | 104224935      | C      | 0.00525                |
| rs491191  | 11         | 104390357      | T      | 0.01092                |
| rs2847181 | 11         | 105388824      | A      | 0.01203                |
| rs11226905| 11         | 105416001      | G      | 0.00049                |
| rs6591148 | 11         | 105425885      | T      | 0.01418                |
| rs10791703| 11         | 105888427      | A      | 0.01570                |
| rs12285411| 11         | 105897117      | C      | 0.00867                |
| rs1945070 | 11         | 105944474      | T      | 0.00158                |
| rs1455601 | 11         | 106351279      | C      | 0.00099                |
| rs2510596 | 11         | 106356732      | A      | 0.00426                |
| rs2276271 | 11         | 106833754      | T      | 0.00271                |
| rs17107015| 11         | 106858523      | C      | 0.01578                |
| rs477835  | 11         | 107040834      | C      | 0.00936                |
| rs488081  | 11         | 107210818      | A      | 0.01508                |
| rs565438  | 11         | 107212100      | C      | 0.00050                |
| rs747145  | 11         | 107329312      | A      | 0.00283                |
| rs1035730 | 11         | 108355597      | C      | 0.00107                |
| rs1396915 | 11         | 108419593      | A      | 0.01558                |
| rs12576077| 11         | 108420513      | T      | 0.00917                |
| rs11212886| 11         | 108425255      | T      | 0.00006                |
| rs10749941| 11         | 108684783      | T      | 0.00417                |
| rs11213103| 11         | 108891145      | G      | 0.00838                |
| rs6589115 | 11         | 109484797      | T      | 0.00599                |
| rs10891075| 11         | 109582754      | T      | 0.00084                |
| rs1784653 | 11         | 109707745      | T      | 0.00789                |
| rs17111116| 11         | 109727259      | C      | 0.01591                |
| rs4753891 | 11         | 109803757      | G      | 0.01589                |
| rs7121928 | 11         | 109809813      | A      | 0.00374                |
| rs7939476 | 11         | 109848196      | A      | 0.00914                |
| rs17392407| 11         | 109852008      | T      | 0.00326                |
| rs10891124| 11         | 109862212      | G      | 0.01401                |
| rs11213434| 11         | 109862633      | T      | 0.00864                |
| rs10488767| 11         | 109964045      | T      | 0.01213                |
| rs7121407 | 11         | 110113005      | G      | 0.00469                |
| rs7107797 | 11         | 110116860      | G      | 0.00931                |
| rs10891214| 11         | 110361339      | T      | 0.00727                |
| rs532132  | 11         | 110545847      | T      | 0.00272                |
| rs4936449 | 11         | 110796503      | G      | 0.00258                |
| SNP ID      | Chr | Position       | Allele | P-value |
|------------|-----|----------------|--------|---------|
| rs4936453  | 11  | 110805992      | A      | 0.00570 |
| rs4630327  | 11  | 111044537      | T      | 0.00469 |
| rs4936678  | 11  | 111130295      | T      | 0.01564 |
| rs7951256  | 11  | 111765984      | T      | 0.00773 |
| rs10891378 | 11  | 111884369      | C      | 0.00087 |
| rs10502161 | 11  | 112348635      | C      | 0.00087 |
| rs674246   | 11  | 112646894      | T      | 0.01645 |
| rs4938026  | 11  | 112894682      | A      | 0.00873 |
| rs4938038  | 11  | 113086252      | A      | 0.00489 |
| rs238896   | 11  | 113499715      | G      | 0.00845 |
| rs11214967 | 11  | 113736606      | G      | 0.01373 |
| rs12797627 | 11  | 113854997      | A      | 0.01448 |
| rs1215077  | 11  | 113964527      | C      | 0.01030 |
| rs10502193 | 11  | 114169861      | G      | 0.01559 |
| rs17117693 | 11  | 114244549      | T      | 0.00905 |
| rs7944043  | 11  | 114366260      | A      | 0.01343 |
| rs11215416 | 11  | 114582537      | T      | 0.00257 |
| rs220861   | 11  | 114799402      | C      | 0.01070 |
| rs7951102  | 11  | 115372533      | G      | 0.00449 |
| rs1215851  | 11  | 115607770      | C      | 0.00115 |
| rs2512160  | 11  | 115728019      | A      | 0.00064 |
| rs488435   | 11  | 115742992      | C      | 0.00434 |
| rs4586206  | 11  | 115780827      | C      | 0.00353 |
| rs17119815 | 11  | 115934773      | C      | 0.00464 |
| rs10502221 | 11  | 116332080      | T      | 0.01324 |
| rs588918   | 11  | 116361852      | G      | 0.00443 |
| rs7115242  | 11  | 116413493      | C      | 0.01248 |
| rs1351452  | 11  | 116448564      | G      | 0.01454 |
| rs1242229  | 11  | 116567580      | G      | 0.01525 |
| rs664971   | 11  | 116576067      | A      | 0.00202 |
| rs4938375  | 11  | 116800183      | G      | 0.00553 |
| rs7111299  | 11  | 116920595      | A      | 0.01442 |
| rs755791   | 11  | 116938896      | T      | 0.01311 |
| rs10892151 | 11  | 117036941      | G      | 0.01223 |
| rs17121153 | 11  | 117108441      | A      | 0.00922 |
| rs625464   | 11  | 117538755      | A      | 0.01322 |
| rs7103936  | 11  | 117596846      | C      | 0.01227 |
| rs2276064  | 11  | 118034913      | A      | 0.01503 |
| rs4938565  | 11  | 118226208      | C      | 0.00891 |
| rs7933007  | 11  | 118235879      | A      | 0.01035 |
| rs       | Chr | Start   | Allele | p_value |
|----------|-----|---------|--------|---------|
| rs11217201 | 11  | 118610902 | C      | 0.00256 |
| rs12418662 | 11  | 119101982 | A      | 0.01542 |
| rs11217548 | 11  | 119248013 | T      | 0.00449 |
| rs471814   | 11  | 119299719 | C      | 0.01447 |
| rs1530919  | 11  | 119411118 | G      | 0.00883 |
| rs1545509  | 11  | 119433098 | G      | 0.00811 |
| rs10444338 | 11  | 119434655 | A      | 0.00925 |
| rs1530919  | 11  | 119453342 | G      | 0.01444 |
| rs6589801  | 11  | 119477197 | T      | 0.00851 |
| rs670855   | 11  | 119506905 | C      | 0.01315 |
| rs494965   | 11  | 119558860 | C      | 0.01466 |
| rs11217775 | 11  | 119626533 | A      | 0.01430 |
| rs17123747 | 11  | 119633661 | A      | 0.01294 |
| rs632137   | 11  | 119752243 | G      | 0.00923 |
| rs3925505  | 11  | 119879098 | A      | 0.00339 |
| rs17311303 | 11  | 119882018 | T      | 0.00480 |
| rs7105963  | 11  | 119973962 | G      | 0.01115 |
| rs751370   | 11  | 120115612 | C      | 0.00481 |
| rs4526780  | 11  | 120235831 | T      | 0.00431 |
| rs948379   | 11  | 120625340 | G      | 0.00480 |
| rs10892714 | 11  | 120642900 | G      | 0.00527 |
| rs1583124  | 11  | 120660151 | A      | 0.00931 |
| rs891441   | 11  | 120670302 | T      | 0.00419 |
| rs1792124  | 11  | 120946730 | T      | 0.00287 |
| rs11218552 | 11  | 121590104 | G      | 0.01213 |
| rs7925049  | 11  | 121957403 | T      | 0.00620 |
| rs10892909 | 11  | 122184691 | G      | 0.00621 |
| rs7130674  | 11  | 122511360 | A      | 0.00940 |
| rs10790558 | 11  | 122544050 | A      | 0.01182 |
| rs7102292  | 11  | 122546723 | C      | 0.00159 |
| rs6589973  | 11  | 122568575 | T      | 0.00009 |
| rs6589986  | 11  | 122658485 | A      | 0.01325 |
| rs11219311 | 11  | 123201471 | A      | 0.01027 |
| rs10893243 | 11  | 123898994 | A      | 0.01278 |
| rs2226752  | 11  | 123940912 | T      | 0.01126 |
| rs10219424 | 11  | 124070598 | T      | 0.00592 |
| rs534502   | 11  | 124192016 | A      | 0.00010 |
| rs4575285  | 11  | 124327379 | G      | 0.01106 |
| rs4595559  | 11  | 124347498 | G      | 0.00356 |
| rs679601   | 11  | 124583125 | T      | 0.01226 |
| rs10893378 | 11  | 124801611 | G      | 0.01565 |
| rs667653   | 11  | 125267989 | C      | 0.01206 |
| rs586197   | 11  | 125365265 | G      | 0.01544 |
| rs3740909  | 11  | 125394736 | A      | 0.00666 |
| rs          | Chromosome | Position   | Allele | P-value |
|-------------|------------|------------|--------|---------|
| rs3740912   | 11         | 125396479  | T      | 0.00287 |
| rs485327    | 11         | 125427135  | G      | 0.00822 |
| rs3862628   | 11         | 125748122  | T      | 0.00725 |
| rs948057    | 11         | 125836392  | C      | 0.01424 |
| rs10790817  | 11         | 126013331  | G      | 0.00318 |
| rs11220583  | 11         | 126065829  | G      | 0.01442 |
| rs4937214   | 11         | 126255140  | G      | 0.01400 |
| rs1939988   | 11         | 126256273  | C      | 0.01111 |
| rs2618215   | 11         | 126724446  | A      | 0.00037 |
| rs1406330   | 11         | 126845830  | T      | 0.00669 |
| rs749513    | 11         | 126861194  | C      | 0.00499 |
| rs11221067  | 11         | 127198904  | T      | 0.00496 |
| rs11221267  | 11         | 127750541  | A      | 0.01491 |
| rs670163    | 11         | 128159454  | T      | 0.00009 |
| rs681296    | 11         | 128191473  | C      | 0.00109 |
| rs588957    | 11         | 128206751  | A      | 0.00421 |
| rs588472    | 11         | 128206861  | A      | 0.00650 |
| rs17137982  | 11         | 128227400  | C      | 0.01305 |
| rs2855798   | 11         | 128238171  | T      | 0.01352 |
| rs11221496  | 11         | 128264481  | T      | 0.00184 |
| rs2604228   | 11         | 128320532  | T      | 0.00387 |
| rs2954145   | 11         | 128917936  | G      | 0.00974 |
| rs547041    | 11         | 129078086  | A      | 0.01539 |
| rs691766    | 11         | 129099080  | T      | 0.01379 |
| rs504990    | 11         | 129099231  | G      | 0.01267 |
| rs10894126  | 11         | 129118377  | C      | 6.36000 |
| rs691570    | 11         | 129118397  | T      | 0.01581 |
| rs2288403   | 11         | 129243199  | C      | 0.00357 |
| rs530351    | 11         | 129579400  | A      | 0.00886 |
| rs10894216  | 11         | 129938943  | G      | 0.01299 |
| rs11222341  | 11         | 130210863  | A      | 0.00855 |
| rs1655490   | 11         | 130414235  | A      | 0.00651 |
| rs1793220   | 11         | 130414497  | G      | 0.01606 |
| rs7358316   | 11         | 130965110  | G      | 0.01621 |
| rs789520    | 11         | 131042553  | T      | 0.00199 |
| rs516721    | 11         | 131240209  | A      | 0.00726 |
| rs11222838  | 11         | 131292792  | C      | 0.01649 |
| rs11222869  | 11         | 131406958  | G      | 0.00147 |
| rs7111704   | 11         | 131769843  | C      | 0.01383 |
| rs490435    | 11         | 131892044  | T      | 0.00964 |
| rs554547    | 11         | 131894436  | G      | 0.01239 |
| rs10894589  | 11         | 131998236  | A      | 0.00622 |
| rs10894592  | 11         | 132004415  | A      | 0.01003 |
| rs9633971   | 11         | 132007648  | G      | 0.01329 |
| SNP          | Chromosome | Position  | Allele  | P-value |
|-------------|------------|-----------|---------|---------|
| rs10791272  | 11         | 132412886 | T       | 0.00089 |
| rs11223337  | 11         | 132418054 | C       | 0.01242 |
| rs1630675   | 11         | 132601535 | G       | 0.00469 |
| rs7932578   | 11         | 132795774 | C       | 0.00111 |
| rs7114322   | 11         | 132851145 | G       | 0.00417 |
| rs1595895   | 11         | 133674016 | G       | 0.01527 |
| rs10750560  | 11         | 133723197 | C       | 0.01136 |
| rs1892988   | 11         | 134123463 | G       | 0.00244 |
| rs4569023   | 11         | 134130098 | A       | 0.01429 |
| rs4936257   | 11         | 134269918 | C       | 0.01193 |
| rs1824832   | 11         | 134313007 | G       | 0.00050 |
| rs4540845   | 11         | 134435899 | A       | 0.01057 |
| rs478520    | 12         | 165786    | T       | 0.01320 |
| rs515639    | 12         | 221584    | T       | 0.00871 |
| rs2286385   | 12         | 1760850   | C       | 0.00847 |
| rs10735004  | 12         | 1817454   | T       | 0.01463 |
| rs11062066  | 12         | 1991557   | C       | 0.00660 |
| rs4765962   | 12         | 2539893   | G       | 0.00106 |
| rs10735019  | 12         | 3276125   | T       | 0.01236 |
| rs7961141   | 12         | 3424976   | C       | 0.01002 |
| rs10744613  | 12         | 3425082   | C       | 0.00653 |
| rs6489469   | 12         | 3426611   | G       | 0.01236 |
| rs917602    | 12         | 3549984   | A       | 0.01546 |
| rs16930743  | 12         | 3718933   | T       | 0.00850 |
| rs16930761  | 12         | 3721838   | G       | 0.00343 |
| rs11062799  | 12         | 3737524   | G       | 0.01441 |
| rs10505726  | 12         | 3848219   | T       | 0.00623 |
| rs10774182  | 12         | 3874725   | A       | 0.00441 |
| rs11062989  | 12         | 4050174   | C       | 0.01201 |
| rs7138216   | 12         | 4204569   | C       | 0.01611 |
| rs11063112  | 12         | 4348341   | A       | 0.01012 |
| rs7961477   | 12         | 4441250   | A       | 0.01141 |
| rs11063199  | 12         | 4462115   | C       | 0.00148 |
| rs11063348  | 12         | 4797738   | A       | 0.01662 |
| rs17775527  | 12         | 4860176   | G       | 0.00739 |
| rs4766314   | 12         | 4924884   | T       | 0.01191 |
| rs1558279   | 12         | 4974367   | G       | 0.00784 |
| rs11063582  | 12         | 5239854   | A       | 0.01645 |
| rs2240894   | 12         | 5258297   | T       | 0.00834 |
| rs17722632  | 12         | 5442242   | A       | 0.00345 |
| SNP      | Chromosome | Position | Allele 1 | Allele 2 | MAF |
|----------|------------|----------|----------|----------|-----|
| rs4930767 | 12         | 5467642  | A        |          | 0.00078 |
| rs10774354 | 12         | 5642027  | C        |          | 0.01000 |
| rs17723813 | 12         | 5697414  | A        |          | 0.01219 |
| rs6489666 | 12         | 5855732  | G        |          | 0.00417 |
| rs7484640 | 12         | 5859898  | C        |          | 19.24800 |
| rs16932485 | 12         | 6224557  | A        |          | 0.00111 |
| rs3742088 | 12         | 7145945  | A        |          | 0.01389 |
| rs17723813 | 12         | 7534052  | A        |          | 0.00385 |
| rs6489666 | 12         | 7546404  | G        |          | 0.00469 |
| rs1558531 | 12         | 7627020  | C        |          | 0.00336 |
| rs1561560 | 12         | 8654230  | A        |          | 0.00421 |
| rs7957038 | 12         | 9039514  | A        |          | 0.00621 |
| rs2114851 | 12         | 9198262  | A        |          | 0.00066 |
| rs12828464 | 12        | 9369005  | T        |          | 0.00919 |
| rs544545  | 12         | 9983104  | G        |          | 0.01314 |
| rs2742115 | 12         | 10213449 | C        |          | 0.00342 |
| rs4763531 | 12         | 10629565 | A        |          | 0.01543 |
| rs4763562 | 12         | 10648792 | T        |          | 0.00271 |
| rs16922916 | 12        | 10707846 | C        |          | 0.00012 |
| rs7968284 | 12         | 10709127 | T        |          | 0.00396 |
| rs7315801 | 12         | 10785259 | T        |          | 0.01407 |
| rs4237931 | 12         | 11298212 | G        |          | 0.00175 |
| rs16933735 | 12        | 11533299 | A        |          | 0.01337 |
| rs2724588 | 12         | 11754082 | C        |          | 0.00344 |
| rs17818498 | 12        | 11764555 | A        |          | 0.00971 |
| rs12369491 | 12        | 11781775 | A        |          | 11.99200 |
| rs12828066 | 12        | 11783232 | A        |          | 0.00720 |
| rs2448031 | 12         | 12142978 | G        |          | 0.00631 |
| rs12581531 | 12        | 12547725 | G        |          | 0.00841 |
| rs4762307 | 12         | 12884433 | A        |          | 0.01634 |
| rs6488576 | 12         | 13067577 | G        |          | 0.01222 |
| rs7978453 | 12         | 13070902 | G        |          | 0.00956 |
| rs1552389 | 12         | 13091145 | A        |          | 0.00723 |
| rs7294646 | 12         | 13093286 | G        |          | 0.00586 |
| rs17820032 | 12        | 13139424 | A        |          | 0.00796 |
| rs4583067 | 12         | 13170986 | A        |          | 0.00291 |
| rs1805544 | 12         | 13679101 | G        |          | 0.01502 |
| rs4140764 | 12         | 13843489 | G        |          | 0.00917 |
| rs11056264 | 12        | 15017270 | C        |          | 0.01123 |
| rs6488806 | 12         | 16015699 | G        |          | 0.00937 |
| rs3782545 | 12         | 16016060 | A        |          | 0.01366 |
| rs1868805 | 12         | 16027219 | C        |          | 0.01432 |
| rs10846420 | 12        | 16802898 | G        |          | 0.00193 |
| rs            | Chromosome | Position        | Allele | P-value |
|---------------|------------|-----------------|--------|---------|
| rs1488080     | 12         | 16838276        | T      | 0.00252 |
| rs2178109     | 12         | 17391620        | G      | 0.00095 |
| rs7294744     | 12         | 18260404        | A      | 0.00001 |
| rs12303068    | 12         | 18992028        | T      | 0.01617 |
| rs11044902    | 12         | 19900749        | A      | 0.01454 |
| rs7970503     | 12         | 20247248        | G      | 0.01452 |
| rs7976912     | 12         | 20262861        | T      | 0.00889 |
| rs10841486    | 12         | 20363469        | G      | 0.01265 |
| rs10505872    | 12         | 21363521        | C      | 0.00083 |
| rs6487230     | 12         | 21503604        | A      | 0.00001 |
| rs7954395     | 12         | 21619527        | C      | 0.00049 |
| rs12826088    | 12         | 22327036        | G      | 0.01618 |
| rs260887      | 12         | 22822130        | T      | 0.01347 |
| rs11046765    | 12         | 23090432        | G      | 0.00396 |
| rs11046841    | 12         | 23219587        | T      | 0.00624 |
| rs16926286    | 12         | 23539093        | A      | 0.00588 |
| rs11046989    | 12         | 23626010        | C      | 0.00400 |
| rs16926425    | 12         | 23632891        | A      | 0.00158 |
| rs10842230    | 12         | 23871249        | C      | 0.00864 |
| rs7136898     | 12         | 23945839        | G      | 0.00506 |
| rs12581677    | 12         | 23951999        | G      | 0.00641 |
| rs10842249    | 12         | 24010223        | T      | 0.00230 |
| rs4963749     | 12         | 24327820        | T      | 0.00568 |
| rs10842390    | 12         | 24705541        | A      | 0.00341 |
| rs10842398    | 12         | 24755688        | C      | 0.00978 |
| rs1872639     | 12         | 24836266        | C      | 0.01503 |
| rs16928354    | 12         | 25075454        | A      | 0.00531 |
| rs7976254     | 12         | 25147621        | C      | 0.00220 |
| rs10842519    | 12         | 25317723        | T      | 0.01216 |
| rs17390442    | 12         | 25334604        | G      | 0.01176 |
| rs11048402    | 12         | 26119148        | G      | 0.00802 |
| rs7300697     | 12         | 26208437        | G      | 0.01442 |
| rs10842688    | 12         | 26229561        | A      | 0.01391 |
| rs10842689    | 12         | 26229632        | A      | 0.01044 |
| rs4963981     | 12         | 26370900        | G      | 0.01390 |
| rs10771281    | 12         | 26424638        | C      | 0.01553 |
| rs11048530    | 12         | 26504908        | G      | 0.00135 |
| rs3736183     | 12         | 26520918        | T      | 0.00241 |
| rs6487557     | 12         | 26556696        | A      | 0.01466 |
| rs11048593    | 12         | 26628515        | A      | 0.00801 |
| rs7972648     | 12         | 26682161        | G      | 0.01597 |
| rs1463590     | 12         | 26685022        | G      | 0.00757 |
| rs2306550     | 12         | 26700804        | T      | 0.01377 |
| rs12823128    | 12         | 26763997        | T      | 0.01086 |
rs2122267  12  26797743  G  0.00244
rs4963685  12  27241258  C  0.00167
rs10506024 12  27609825  G  0.00477
rs10842941 12  27629473  G  0.00041
rs10771349 12  27629871  A  0.01083
rs7295096  12  27689172  T  0.00583
rs11049171 12  27868166  A  0.00536
rs10843028 12  27985938  C  0.00612
rs7294486  12  28226189  C  0.01441
rs10506031 12  28423261  C  0.00795
rs12314459 12  28619532  A  0.00988
rs309028   12  28790151  G  0.00332
rs309043   12  28825379  C  0.00092
rs309046   12  28840623  A  0.00404
rs1480636  12  28876460  G  0.01498
rs1480635  12  28876540  A  0.01533
rs789123   12  28877817  C  0.00639
rs1021312  12  28922763  C  0.01150
rs4931135  12  29081528  T  0.00296
rs10771478 12  29119551  T  0.00072
rs4280037  12  29337413  A  0.00824
rs2216858  12  29552643  C  0.01486
rs7294502  12  29627037  A  0.00443
rs16934692 12  29702738  A  9.65500
rs2882467  12  29818043  C  0.00390
rs11050428 12  29823051  T  0.01356
rs11050523 12  29931984  G  0.00597
rs11050546 12  29964601  G  0.00519
rs2200282  12  30000944  A  0.01478
rs10743696 12  30195234  G  0.01303
rs731139   12  30204772  C  0.01320
rs7979416  12  30446335  C  0.01415
rs10771719 12  30481442  C  0.00115
rs11050908 12  30499254  C  0.00261
rs918255   12  31046105  G  0.00120
rs12231929 12  31267475  C  0.00965
rs1666230  12  31921073  T  0.00521
rs10844055 12  31965995  A  0.00245
rs16919113 12  32024793  C  0.00038
rs10771895 12  32030685  C  0.01626
rs6488035  12  32195894  C  0.00773
rs7971525  12  32477931  A  0.01075
rs4931631  12  32520762  C  0.01509
rs10844251 12  32644486  G  0.00347
| SNP     | Chromosome | Position | Type | Minor Allele | Minor Allele Frequency |
|---------|------------|----------|------|--------------|------------------------|
| rs10844260 | 12 | 32671763 | G    | 0.00328      |
| rs10771978 | 12 | 32717095 | C    | 0.00367      |
| rs3600   | 12 | 3278211  | A    | 0.01408      |
| rs11052414 | 12 | 33098383 | A    | 0.00439      |
| rs4931700 | 12 | 33233844 | A    | 0.00783      |
| rs7959960 | 12 | 33793335 | A    | 0.01385      |
| rs11053208 | 12 | 34351296 | G    | 0.00547      |
| rs7488727 | 12 | 37066328 | T    | 0.01072      |
| rs1472657 | 12 | 37325184 | G    | 0.01323      |
| rs10747664 | 12 | 37727666 | A    | 0.01399      |
| rs7959960 | 12 | 38670169 | C    | 0.00669      |
| rs2708437 | 12 | 38901046 | A    | 5.91500      |
| rs4293189 | 12 | 38943492 | G    | 0.00984      |
| rs10878405 | 12 | 39028521 | G    | 0.00221      |
| rs17128391 | 12 | 39198249 | G    | 0.01393      |
| rs41353744 | 12 | 39281690 | T    | 0.00287      |
| rs1078917 | 12 | 39309270 | A    | 0.00175      |
| rs17128779 | 12 | 39454516 | G    | 0.00781      |
| rs6581955 | 12 | 39466178 | G    | 0.00819      |
| rs10784898 | 12 | 39516989 | G    | 0.00256      |
| rs11180828 | 12 | 40009387 | G    | 0.00574      |
| rs2730830 | 12 | 40115413 | G    | 0.00689      |
| rs2218865 | 12 | 40374291 | A    | 0.01256      |
| rs7316844 | 12 | 40411394 | A    | 0.01503      |
| rs1466790 | 12 | 40413042 | A    | 0.01284      |
| rs1466791 | 12 | 40413058 | C    | 0.00766      |
| rs1532451 | 12 | 40427439 | G    | 0.00334      |
| rs17604073 | 12 | 40546276 | C    | 0.00503      |
| rs722216  | 12 | 40591624 | A    | 0.00100      |
| rs1234032 | 12 | 40640896 | G    | 0.00032      |
| rs7315650 | 12 | 40752196 | T    | 0.00263      |
| rs12371615 | 12 | 40850256 | C    | 0.00486      |
| rs1238290 | 12 | 40872206 | T    | 0.01641      |
| rs1796381 | 12 | 41128742 | C    | 0.00438      |
| rs17491437 | 12 | 41345395 | T    | 0.00896      |
| rs1356422 | 12 | 41429263 | G    | 0.00686      |
| rs7308182 | 12 | 41661598 | A    | 0.00261      |
| rs10880415 | 12 | 41715122 | C    | 0.00728      |
| rs11182236 | 12 | 42413091 | C    | 0.00198      |
| rs12319024 | 12 | 42421914 | A    | 0.00946      |
| rs10506235 | 12 | 42797754 | T    | 0.01065      |
| rs17094231 | 12 | 42888643 | G    | 0.00405      |
| rs17094242 | 12 | 42900707 | G    | 0.00462      |
| rs12308701 | 12 | 43088189 | C    | 0.00814      |
| rs17652045 | 12 | 43344877 | C | 0.00165 |
| rs17095247 | 12 | 43605390 | C | 0.01432 |
| rs7315817  | 12 | 43728376 | C | 0.01502 |
| rs17095721 | 12 | 43989972 | C | 0.00594 |
| rs17096991 | 12 | 45214660 | C | 0.00715 |
| rs17121412 | 12 | 45231962 | T | 0.00689 |
| rs2471618  | 12 | 45258412 | A | 0.00548 |
| rs7965705  | 12 | 45644553 | G | 0.01254 |
| rs2140842  | 12 | 45917496 | C | 0.00667 |
| rs1468196  | 12 | 46096161 | A | 0.00924 |
| rs2005692  | 12 | 46099144 | G | 0.00499 |
| rs2051827  | 12 | 46242298 | A | 0.00719 |
| rs668968   | 12 | 46291715 | C | 0.01344 |
| rs1302919  | 12 | 46317652 | C | 0.00318 |
| rs2239187  | 12 | 46403974 | C | 0.01101 |
| rs17122666 | 12 | 46788841 | T | 0.01042 |
| rs2228500  | 12 | 46812979 | A | 0.00244 |
| rs7962390  | 12 | 46863254 | T | 0.00544 |
| rs6580685  | 12 | 47297076 | C | 0.00640 |
| rs2271688  | 12 | 48545796 | C | 0.01415 |
| rs3759125  | 12 | 48629875 | C | 0.01283 |
| rs10875990 | 12 | 48658293 | A | 0.00621 |
| rs4768887  | 12 | 49214148 | T | 0.00893 |
| rs7301125  | 12 | 49253045 | C | 0.00581 |
| rs10506296 | 12 | 49374124 | G | 0.01214 |
| rs7977742  | 12 | 49416474 | C | 0.00545 |
| rs224572   | 12 | 49702787 | A | 0.00558 |
| rs1362963  | 12 | 49973251 | T | 0.01162 |
| rs10506301 | 12 | 50054931 | A | 0.00504 |
| rs2029674  | 12 | 50256509 | C | 0.00250 |
| rs303817   | 12 | 50462502 | T | 0.00009 |
| rs11610143 | 12 | 50635338 | C | 0.01416 |
| rs1283176  | 12 | 50706226 | C | 0.01219 |
| rs1732311  | 12 | 51028415 | G | 0.00697 |
| rs1994516  | 12 | 51344781 | A | 0.00746 |
| rs1567757  | 12 | 51368520 | C | 0.00750 |
| rs12315733 | 12 | 51478204 | A | 0.01536 |
| rs7137593  | 12 | 51536728 | T | 0.00511 |
| rs17773850 | 12 | 52514690 | T | 0.00768 |
| rs11170732 | 12 | 52543443 | T | 0.00832 |
| rs11170760 | 12 | 52590481 | G | 0.01479 |
| rsID       | Chromosome | Position   | Allele 1 | Allele 2 | Minor Allele Frequency |
|------------|------------|------------|----------|----------|------------------------|
| rs10876558 | 12         | 53088357   | G        |          | 0.01534                |
| rs266687   | 12         | 53444976   | T        |          | 0.00658                |
| rs17116877 | 12         | 53737456   | G        |          | 0.00619                |
| rs7962641  | 12         | 53848880   | G        |          | 0.01038                |
| rs2720174  | 12         | 56754430   | A        |          | 0.00834                |
| rs10506381 | 12         | 57062804   | T        |          | 0.00360                |
| rs782103   | 12         | 57122898   | T        |          | 0.01577                |
| rs17121341 | 12         | 57400680   | C        |          | 0.00083                |
| rs2605422  | 12         | 57434906   | T        |          | 0.00513                |
| rs7302361  | 12         | 57445868   | G        |          | 0.00185                |
| rs10876558 | 12         | 58062330   | G        |          | 0.00590                |
| rs276056   | 12         | 58087199   | T        |          | 0.00709                |
| rs17122718 | 12         | 58300154   | A        |          | 0.00582                |
| rs982321   | 12         | 58324202   | C        |          | 0.01653                |
| rs17122785 | 12         | 58334869   | G        |          | 0.00921                |
| rs1693598  | 12         | 58403453   | A        |          | 0.00152                |
| rs4326838  | 12         | 58577210   | A        |          | 0.00952                |
| rs10877406 | 12         | 58900377   | T        |          | 0.01420                |
| rs1516032  | 12         | 60088543   | A        |          | 0.01229                |
| rs10877662 | 12         | 60110245   | C        |          | 0.00521                |
| rs7963802  | 12         | 60682041   | C        |          | 0.01074                |
| rs7955714  | 12         | 60685848   | A        |          | 0.01366                |
| rs11174316 | 12         | 60780616   | A        |          | 0.00076                |
| rs11612077 | 12         | 60823647   | C        |          | 0.01157                |
| rs11174347 | 12         | 60825121   | A        |          | 0.00298                |
| rs7973394  | 12         | 60853762   | A        |          | 0.01176                |
| rs7976058  | 12         | 60961914   | T        |          | 0.00199                |
| rs11174439 | 12         | 61034378   | T        |          | 0.01233                |
| rs11174620 | 12         | 61398152   | G        |          | 0.00829                |
| rs17098779 | 12         | 61705504   | A        |          | 0.00777                |
| rs11174879 | 12         | 61909420   | G        |          | 0.00110                |
| rs11175294 | 12         | 62920868   | G        |          | 0.00023                |
| rs11175342 | 12         | 63006061   | A        |          | 0.00941                |
| rs7976491  | 12         | 63586810   | G        |          | 0.00767                |
| rs7306171  | 12         | 64312314   | C        |          | 0.00552                |
| rs10878381 | 12         | 64796389   | C        |          | 0.00588                |
| rs4913353  | 12         | 65129534   | C        |          | 0.00024                |
| rs2904532  | 12         | 65582311   | C        |          | 0.00238                |
| rs10878535 | 12         | 65609808   | A        |          | 0.00881                |
| rs12820762 | 12         | 65619225   | C        |          | 0.00267                |
| rs1152882  | 12         | 66120331   | G        |          | 0.01340                |
| rsID      | Chromosome | Position   | Allele | Minor Allele Frequency |
|-----------|------------|------------|--------|------------------------|
| rs10878630| 12         | 66244967   | T      | 0.01505                |
| rs10735944| 12         | 66776260   | A      | 0.01495                |
| rs2216164 | 12         | 66820607   | C      | 0.00068                |
| rs2193048 | 12         | 66823141   | G      | 0.00965                |
| rs2870953 | 12         | 66830897   | T      | 0.00617                |
| rs10878779| 12         | 66867288   | C      | 0.00597                |
| rs11570915| 12         | 66905871   | A      | 0.01334                |
| rs734871  | 12         | 66917055   | A      | 0.01219                |
| rs17700390| 12         | 66918123   | G      | 0.00121                |
| rs11177504| 12         | 67797677   | C      | 0.00197                |
| rs11177543| 12         | 67875473   | C      | 0.01014                |
| rs11178166| 12         | 68956853   | C      | 0.00217                |
| rs412528  | 12         | 69120135   | T      | 0.00117                |
| rs2270584 | 12         | 69818366   | C      | 0.00503                |
| rs10748186| 12         | 70622255   | G      | 0.00462                |
| rs1864838 | 12         | 71286286   | C      | 0.00434                |
| rs1807989 | 12         | 71360679   | G      | 0.00330                |
| rs2887021 | 12         | 71360699   | A      | 0.01609                |
| rs11179324| 12         | 71377874   | T      | 0.00729                |
| rs11179448| 12         | 71567861   | A      | 0.01040                |
| rs6421241 | 12         | 72166016   | T      | 0.00816                |
| rs7314330 | 12         | 73381431   | T      | 0.01104                |
| rs7138969 | 12         | 73394160   | A      | 0.01258                |
| rs7958912 | 12         | 73436548   | A      | 0.00694                |
| rs7973014 | 12         | 73455942   | A      | 0.01468                |
| rs10785156| 12         | 73604536   | T      | 0.01390                |
| rs10506678| 12         | 73708472   | C      | 0.00079                |
| rs7962276 | 12         | 74310581   | G      | 0.01447                |
| rs10879961| 12         | 74375206   | T      | 0.01665                |
| rs7969436 | 12         | 74375460   | A      | 0.00394                |
| rs10879976| 12         | 74456589   | T      | 0.00592                |
| rs10879987| 12         | 74498486   | C      | 0.00490                |
| rs7133339 | 12         | 75189402   | T      | 0.00237                |
| rs7962515 | 12         | 75222674   | G      | 0.00451                |
| rs10778674| 12         | 75378005   | G      | 0.00008                |
| rs12309314| 12         | 75636758   | G      | 0.00464                |
| rs1716525 | 12         | 76183707   | A      | 0.01076                |
| rs1491041 | 12         | 76518153   | T      | 0.00441                |
| rs1479018 | 12         | 76864828   | A      | 0.01167                |
| rs2293650 | 12         | 78214615   | T      | 0.01451                |
| rs1405493 | 12         | 78318095   | T      | 0.01209                |
| rs7315638 | 12         | 78331410   | T      | 0.00489                |
| rs2251214 | 12         | 78347982   | G      | 0.00997                |
| rs7138252 | 12         | 78446450   | A      | 0.00441                |
| SNP          | Chromosome | Position   | Allele 1 | Allele 2 | p-value |
|--------------|------------|------------|----------|----------|---------|
| rs11114162   | 12         | 78455616   | T        |          | 0.00190 |
| rs1463228    | 12         | 78828941   | C        |          | 0.00018 |
| rs1451098    | 12         | 79247890   | G        |          | 0.00737 |
| rs896202     | 12         | 79281780   | T        |          | 0.01139 |
| rs2717473    | 12         | 79330649   | A        |          | 0.00049 |
| rs7309612    | 12         | 79471213   | G        |          | 0.00030 |
| rs7132043    | 12         | 79492531   | G        |          | 10.78600 |
| rs1178704    | 12         | 79555186   | T        |          | 0.00977 |
| rs11114653   | 12         | 79834900   | T        |          | 0.00695 |
| rs12301355   | 12         | 80017957   | A        |          | 0.01498 |
| rs12296937   | 12         | 80018383   | C        |          | 0.01093 |
| rs1921045    | 12         | 80239063   | C        |          | 0.00347 |
| rs10506856   | 12         | 80912999   | A        |          | 0.01285 |
| rs11115179   | 12         | 80991051   | T        |          | 0.00920 |
| rs4143188    | 12         | 81326916   | A        |          | 0.01447 |
| rs11115373   | 12         | 81657221   | C        |          | 0.00280 |
| rs10862511   | 12         | 81725727   | A        |          | 0.00457 |
| rs7304237    | 12         | 81766456   | C        |          | 0.00520 |
| rs11115584   | 12         | 82016576   | G        |          | 0.00160 |
| rs2056218    | 12         | 82056671   | G        |          | 0.01293 |
| rs7137313    | 12         | 82113049   | C        |          | 0.01056 |
| rs1517815    | 12         | 82115436   | C        |          | 0.01564 |
| rs4482098    | 12         | 82140528   | A        |          | 0.01543 |
| rs7484818    | 12         | 82219067   | G        |          | 0.01144 |
| rs11115730   | 12         | 82241901   | A        |          | 0.01233 |
| rs7959848    | 12         | 82270137   | A        |          | 0.01226 |
| rs11837529   | 12         | 82573928   | C        |          | 0.00126 |
| rs10779022   | 12         | 82594624   | C        |          | 0.00424 |
| rs2128350    | 12         | 83004453   | T        |          | 0.00770 |
| rs2929815    | 12         | 83124941   | T        |          | 0.00440 |
| rs12581616   | 12         | 83175715   | A        |          | 0.00470 |
| rs12320923   | 12         | 83179322   | A        |          | 0.00520 |
| rs17011775   | 12         | 83180847   | T        |          | 0.01000 |
| rs7135755    | 12         | 83181327   | T        |          | 0.00546 |
| rs4491329    | 12         | 83181851   | T        |          | 0.01027 |
| rs11116280   | 12         | 83183659   | G        |          | 0.00550 |
| rs12313738   | 12         | 83184837   | C        |          | 0.01520 |
| rs7973519    | 12         | 83208883   | A        |          | 0.00786 |
| rs10506911   | 12         | 83995528   | C        |          | 0.00075 |
| rs7486001    | 12         | 84191889   | C        |          | 0.00419 |
| rs10746342   | 12         | 84278771   | A        |          | 0.01147 |
| rs1398440    | 12         | 84314940   | C        |          | 0.01310 |
| rs1398442    | 12         | 84334038   | T        |          | 0.01412 |
| rs7484736    | 12         | 84457457   | A        |          | 0.00158 |
| SNP        | Chromosome | Position   | Allele | Minor Allele Frequency |
|------------|------------|------------|--------|------------------------|
| rs7975477  | 12         | 85651980   | A      | 0.00063                |
| rs17014284 | 12         | 85805587   | T      | 0.00902                |
| rs1368563  | 12         | 86028234   | A      | 0.00183                |
| rs4303306  | 12         | 86764038   | G      | 0.00249                |
| rs10777085 | 12         | 86909836   | C      | 0.01325                |
| rs11104708 | 12         | 86913935   | C      | 0.00792                |
| rs17364616 | 12         | 88354318   | G      | 0.01254                |
| rs10745509 | 12         | 88604351   | C      | 0.00957                |
| rs1368563  | 12         | 86028234   | A      | 0.00183                |
| rs4303306  | 12         | 86764038   | G      | 0.00249                |
| rs10777085 | 12         | 86909836   | C      | 0.01325                |
| rs11104708 | 12         | 86913935   | C      | 0.00792                |
| rs17364616 | 12         | 88354318   | G      | 0.01254                |
| rs10745509 | 12         | 88604351   | C      | 0.00957                |
| rs7978809  | 12         | 90135221   | C      | 0.00352                |
| rs11614500 | 12         | 91544383   | C      | 0.00966                |
| rs41464449 | 12         | 91545805   | T      | 0.00758                |
| rs17730847 | 12         | 91548717   | C      | 0.01495                |
| rs10777420 | 12         | 91551302   | T      | 0.01178                |
| rs2120575  | 12         | 91609585   | G      | 0.01548                |
| rs7972216  | 12         | 91649196   | G      | 0.00755                |
| rs7958821  | 12         | 91658207   | G      | 0.00359                |
| rs10859378 | 12         | 91663365   | A      | 0.00364                |
| rs11106763 | 12         | 91872651   | G      | 0.00415                |
| rs11106988 | 12         | 92258581   | C      | 0.00209                |
| rs10777556 | 12         | 92836222   | T      | 0.00317                |
| rs7135433  | 12         | 92872354   | T      | 0.01248                |
| rs4761756  | 12         | 92873911   | C      | 0.01067                |
| rs4761625  | 12         | 93456977   | C      | 0.01201                |
| rs2651985  | 12         | 93559305   | G      | 0.01569                |
| rs2651982  | 12         | 93570929   | G      | 0.01167                |
| rs6538534  | 12         | 93678633   | C      | 0.01537                |
| rs7972350  | 12         | 93684736   | T      | 0.01336                |
| rs4761664  | 12         | 93702211   | C      | 0.00790                |
| rs10777641 | 12         | 93777015   | A      | 0.00718                |
| rs7307510  | 12         | 94761701   | G      | 0.01321                |
| rs2117914  | 12         | 94790166   | G      | 0.00982                |
| rs4762652  | 12         | 94875228   | G      | 0.00383                |
| rs2043608  | 12         | 94878586   | G      | 0.00474                |
| rs7961807  | 12         | 94880938   | T      | 0.01529                |
| rs4762293  | 12         | 95179367   | G      | 0.00153                |
| rs7972539  | 12         | 95345700   | A      | 0.00582                |
| rs41322846 | 12         | 95428236   | G      | 0.01070                |
| rs10431437 | 12         | 95602230   | G      | 0.00148                |
| rs34493    | 12         | 95787104   | G      | 0.00656                |
| rs10860188 | 12         | 96253413   | A      | 0.01637                |
| SNP    | Chr | Position   | Ref | Alt | P-Value |
|--------|-----|------------|-----|-----|---------|
| rs34537| 12  | 96582908   | G   |     | 0.00068 |
| rs34540| 12  | 96584094   | G   |     | 0.00005 |
| rs4609647| 12 | 97611741   | G   |     | 0.00161 |
| rs7313721| 12 | 98005215   | A   |     | 0.01567 |
| rs7960388| 12 | 99701729   | C   |     | 0.00431 |
| rs1514797| 12 | 99705093   | G   |     | 0.00047 |
| rs11110677| 12| 100060692  | T   |     | 0.03999 |
| rs11110932| 12| 100574306  | G   |     | 0.01047 |
| rs11110939| 12| 100578274  | G   |     | 0.00897 |
| rs11110994| 12| 100667339  | G   |     | 0.00662 |
| rs2036771| 12| 101041934  | A   |     | 0.01528 |
| rs11111272| 12| 101351571  | C   |     | 0.00023 |
| rs4764698| 12| 101384190  | C   |     | 0.00980 |
| rs2100635| 12| 101515117  | G   |     | 0.00143 |
| rs7977073| 12| 101515601  | A   |     | 0.01367 |
| rs937471 | 12  | 101607332  | G   |     | 0.01270 |
| rs1357768| 12  | 101691183  | A   |     | 0.00723 |
| rs1603818| 12  | 101913368  | C   |     | 0.00108 |
| rs11111535| 12| 102258345  | C   |     | 0.00893 |
| rs17034112| 12| 102497741  | G   |     | 0.00446 |
| rs703623 | 12  | 102559085  | C   |     | 0.00385 |
| rs1863878| 12  | 102589976  | T   |     | 0.01295 |
| rs11614418| 12| 102591942  | T   |     | 0.00051 |
| rs10861081| 12| 102642509  | T   |     | 0.00278 |
| rs1595338| 12  | 102792249  | A   |     | 7.98300 |
| rs4135081| 12  | 102893176  | C   |     | 0.00243 |
| rs7971994| 12  | 102964551  | C   |     | 0.00512 |
| rs7132831| 12  | 102972036  | C   |     | 0.00748 |
| rs7973993| 12  | 103396502  | T   |     | 0.00014 |
| rs7963874| 12  | 103406134  | A   |     | 0.01396 |
| rs703664 | 12  | 103591660  | A   |     | 0.00941 |
| rs11112159| 12| 103594006  | C   |     | 0.00731 |
| rs10861342| 12| 103982927  | T   |     | 0.00084 |
| rs2374561| 12  | 104841395  | G   |     | 0.00462 |
| rs12300729| 12| 105419382  | G   |     | 0.01316 |
| rs3741892| 12  | 105911293  | G   |     | 0.00089 |
| rs2178492| 12  | 106093855  | C   |     | 0.00013 |
| rs1861693| 12  | 106127287  | A   |     | 0.00034 |
| rs11113221| 12| 106149778  | T   |     | 0.01424 |
| rs11113224| 12| 106150988  | C   |     | 0.00455 |
| rs1861691| 12  | 106201676  | C   |     | 0.00699 |
| rs11113283| 12| 106279191  | T   |     | 0.00296 |
| rs1426463| 12  | 106310763  | G   |     | 0.01274 |
| rs1426462| 12  | 106311013  | A   |     | 0.01154 |
| rs7969301 | 12 | 106466117 | A | 0.01166 |
| rs1420742 | 12 | 106541819 | G | 0.00558 |
| rs4258462 | 12 | 106657818 | C | 0.00348 |
| rs10861779 | 12 | 106684894 | A | 0.01254 |
| rs1895941 | 12 | 106857124 | T | 0.00214 |
| rs12316047 | 12 | 106917975 | T | 0.01547 |
| rs881512 | 12 | 108171165 | T | 0.01170 |
| rs12321936 | 12 | 108415977 | C | 0.00784 |
| rs11113845 | 12 | 10850232 | C | 0.00297 |
| rs2284685 | 12 | 112401668 | A | 0.00847 |
| rs11613697 | 12 | 112487688 | G | 0.00329 |
| rs16939985 | 12 | 113036063 | T | 0.01372 |
| rs10850521 | 12 | 113040821 | A | 0.00662 |
| rs10082740 | 12 | 113071155 | A | 0.00531 |
| rs16943814 | 12 | 113125101 | C | 0.00073 |
| rs1066946 | 12 | 113037816 | T | 0.01478 |
| rs1560002 | 12 | 113040821 | A | 0.00662 |
| rs4763859 | 12 | 114559434 | A | 0.00891 |
| rs708812 | 12 | 114724217 | G | 0.00010 |
| rs697863 | 12 | 114735619 | G | 0.00028 |
| rs802138 | 12 | 114751157 | A | 0.00770 |
| rs11067813 | 12 | 114796285 | T | 0.00043 |
| rs16946620 | 12 | 115300622 | C | 0.00600 |
| rs11068096 | 12 | 115513943 | A | 0.01468 |
| rs816358 | 12 | 116181691 | G | 0.00173 |
| rs12307921 | 12 | 116296177 | A | 0.01166 |
| rs4766859 | 12 | 116463586 | C | 0.01179 |
| SNP          | Chromosome | Base Pair Position | Allele | Minor Allele Frequency |
|--------------|------------|--------------------|--------|-----------------------|
| rs11068891   | 12         | 117182002          | C      | 0.01522               |
| rs7966814    | 12         | 117359859          | C      | 0.00891               |
| rs1402341    | 12         | 117515417          | A      | 0.00339               |
| rs10851005   | 12         | 117556688          | G      | 0.00605               |
| rs10851031   | 12         | 117678658          | G      | 0.01410               |
| rs756750     | 12         | 118479586          | C      | 0.00891               |
| rs795574     | 12         | 118562324          | G      | 0.00638               |
| rs203327     | 12         | 118689478          | T      | 0.00255               |
| rs12311327   | 12         | 118959807          | G      | 0.01515               |
| rs3936255    | 12         | 119031310          | T      | 0.01475               |
| rs651221     | 12         | 120034006          | C      | 0.00310               |
| rs618201     | 12         | 120039181          | T      | 0.00797               |
| rs208290     | 12         | 120078439          | A      | 0.00585               |
| rs2567982    | 12         | 120160097          | G      | 0.00503               |
| rs795574     | 12         | 120409487          | T      | 0.00592               |
| rs11058797   | 12         | 121628547          | T      | 0.01428               |
| rs11059100   | 12         | 121690655          | T      | 0.01235               |
| rs11059258   | 12         | 121707640          | A      | 0.01600               |
| rs4759438    | 12         | 121913655          | G      | 0.01101               |
| rs4759384    | 12         | 121922964          | T      | 0.01117               |
| rs10773005   | 12         | 122355960          | A      | 0.00049               |
| rs6488920    | 12         | 123202540          | G      | 0.01602               |
| rs4765359    | 12         | 123239474          | C      | 0.01374               |
| rs11057556   | 12         | 123322388          | G      | 0.00901               |
| rs9669274    | 12         | 123814338          | C      | 0.00262               |
| rs12831105   | 12         | 123908873          | G      | 0.01260               |
| rs323846     | 12         | 124445806          | C      | 0.00754               |
| rs325095     | 12         | 124451257          | C      | 0.01623               |
| rs10492037   | 12         | 124846692          | G      | 0.00221               |
| rs7132603    | 12         | 124918806          | G      | 0.01482               |
| rs10847004   | 12         | 124918954          | C      | 0.00957               |
| rs10847028   | 12         | 125042245          | A      | 0.01088               |
| rs7298854    | 12         | 125553390          | C      | 0.00862               |
| rs10847208   | 12         | 125795459          | G      | 0.01355               |
| rs1194048    | 12         | 125817067          | G      | 0.00466               |
| rs4765122    | 12         | 125889975          | A      | 0.00979               |
| rs2662801    | 12         | 126219867          | T      | 0.00482               |
| rs1509050    | 12         | 126277369          | G      | 0.01073               |
| rs971599     | 12         | 126544661          | G      | 0.01311               |
| rs10128788   | 12         | 126554901          | C      | 0.00973               |
| rs2682617    | 12         | 126555865          | G      | 0.01511               |
| rs10744341   | 12         | 126999998          | G      | 0.00267               |
| rs2730764    | 12         | 127000966          | A      | 0.00234               |
| SNP         | Chrom | Position  | Major Allele | Minor Allele |
|-------------|-------|-----------|--------------|--------------|
| rs9705457   | 12    | 127177186 | A            | 0.01055      |
| rs11059602  | 12    | 127302944 | T            | 0.01002      |
| rs4882752   | 12    | 127432873 | A            | 0.01411      |
| rs10847647  | 12    | 127595311 | T            | 0.00074      |
| rs10773567  | 12    | 127731277 | G            | 0.01158      |
| rs1385374   | 12    | 127866647 | T            | 0.00933      |
| rs11059602  | 12    | 127302944 | A            | 0.00054      |
| rs4964848   | 12    | 128198132 | G            | 0.00525      |
| rs2172327   | 12    | 128672611 | C            | 0.01132      |
| rs1160565   | 12    | 128857653 | C            | 0.01212      |
| rs825879    | 12    | 128991903 | A            | 0.00868      |
| rs904633    | 12    | 129171853 | G            | 0.00801      |
| rs1472513   | 12    | 129296225 | A            | 0.00054      |
| rs10848074  | 12    | 129352663 | T            | 0.01628      |
| rs4759462   | 12    | 129476345 | G            | 18.20900     |
| rs12822943  | 12    | 129574692 | C            | 0.01272      |
| rs10744476  | 12    | 129693400 | C            | 0.01031      |
| rs7299940   | 12    | 129956707 | G            | 0.01626      |
| rs12314913  | 12    | 130078766 | T            | 0.01220      |
| rs11246923  | 12    | 130651252 | C            | 0.00343      |
| rs10794422  | 12    | 130748513 | T            | 0.00762      |
| rs10751695  | 12    | 130857014 | C            | 0.00039      |
| rs11831679  | 12    | 131175913 | T            | 0.00857      |
| rs10781653  | 12    | 131893996 | A            | 0.00450      |
| rs2880848   | 13    | 18212519  | C            | 0.00484      |
| rs7319991   | 13    | 18598922  | A            | 0.00294      |
| rs12870953  | 13    | 18737674  | T            | 0.01312      |
| rs3002099   | 13    | 18999964  | T            | 0.00738      |
| rs9579762   | 13    | 19482060  | A            | 0.00033      |
| rs1543536   | 13    | 19506560  | T            | 0.00156      |
| rs17080889  | 13    | 19837136  | T            | 0.00511      |
| rs7319026   | 13    | 20125440  | G            | 0.00091      |
| rs9579975   | 13    | 20393509  | G            | 0.00138      |
| rs9509469   | 13    | 20425762  | A            | 0.00006      |
| rs9552323   | 13    | 20473298  | A            | 0.00341      |
| rs754509    | 13    | 20588867  | G            | 0.01146      |
| rs9509767   | 13    | 20974829  | G            | 0.00113      |
| rs7328675   | 13    | 20976174  | C            | 0.00179      |
| rs9550760   | 13    | 21194721  | G            | 0.01357      |
| rs1122257   | 13    | 21199079  | C            | 0.00780      |
| rs9285177   | 13    | 21211165  | T            | 0.00391      |
| rs7323292   | 13    | 21212101  | C            | 0.00594      |
| rs3117948   | 13    | 21423846  | A            | 0.01297      |
| rs3117963   | 13    | 21432122  | A            | 0.01227      |
| SNP         | chr | pos   | ref | alt | p_value |
|-------------|-----|-------|-----|-----|---------|
| rs3129621   | 13  | 21490568 | T   |     | 0.00823 |
| rs12716699  | 13  | 21677237 | C   |     | 0.00552 |
| rs17076477  | 13  | 21741308 | C   |     | 0.00739 |
| rs10870911  | 13  | 21767266 | G   |     | 0.00178 |
| rs914069    | 13  | 22365854 | G   |     | 0.00221 |
| rs9317422   | 13  | 22512071 | A   |     | 0.00161 |
| rs872273    | 13  | 22573103 | G   |     | 0.00739 |
| rs12866761  | 13  | 22965227 | A   |     | 0.00341 |
| rs7321879   | 13  | 23365854 | G   |     | 0.00221 |
| rs10870911  | 13  | 23460950 | G   |     | 0.00739 |
| rs4470013   | 13  | 23537823 | T   |     | 0.00246 |
| rs7317204   | 13  | 23603705 | G   |     | 0.00786 |
| rs11840813  | 13  | 23616148 | A   |     | 0.01122 |
| rs1807111   | 13  | 23943158 | C   |     | 0.00996 |
| rs17384669  | 13  | 23948923 | G   |     | 0.00230 |
| rs943048    | 13  | 24078246 | T   |     | 0.01582 |
| rs7986361   | 13  | 24160942 | G   |     | 0.00330 |
| rs9318740   | 13  | 24189876 | G   |     | 0.00639 |
| rs41365447  | 13  | 24589022 | T   |     | 0.01558 |
| rs17081816  | 13  | 24608667 | G   |     | 0.01599 |
| rs9507469   | 13  | 24611365 | A   |     | 0.01344 |
| rs9507470   | 13  | 24611522 | T   |     | 0.00996 |
| rs12853449  | 13  | 25025890 | C   |     | 0.01003 |
| rs9518395   | 13  | 25040342 | G   |     | 0.00117 |
| rs7986574   | 13  | 25045098 | G   |     | 0.00607 |
| rs9511934   | 13  | 25309084 | T   |     | 0.00057 |
| rs9511940   | 13  | 25322692 | T   |     | 0.00335 |
| rs1048789   | 13  | 25492700 | C   |     | 0.01399 |
| rs9512034   | 13  | 25498688 | G   |     | 0.00977 |
| rs7328925   | 13  | 25964253 | G   |     | 0.01459 |
| rs549305    | 13  | 26037876 | T   |     | 0.00790 |
| rs3897233   | 13  | 26440276 | G   |     | 0.00056 |
| rs12867751  | 13  | 27270798 | C   |     | 0.00988 |
| rs2388084   | 13  | 28945005 | A   |     | 0.00737 |
| rs4262814   | 13  | 28945180 | T   |     | 0.01645 |
| rs590377    | 13  | 29084744 | T   |     | 0.00679 |
| rs719199    | 13  | 29287252 | G   |     | 0.00996 |
| rs4149847   | 13  | 29382765 | G   |     | 0.00929 |
| rs912785    | 13  | 29414728 | C   |     | 0.00430 |
| rs17504553  | 13  | 29566989 | G   |     | 0.01069 |
| rs9508647   | 13  | 29606574 | A   |     | 0.01637 |
| rs1754937   | 13  | 29831368 | T   |     | 0.01107 |
| rs17238738  | 13  | 30216068 | C   |     | 0.00051 |
| rs4147064   | 13  | 30218118 | A   |     | 0.00297 |
| SNP       | Chromosome | Position | Reference Allele | P-Value |
|-----------|------------|----------|------------------|---------|
| rs7998271 | 13         | 30760334 | G                | 0.00053 |
| rs2056443 | 13         | 30803942 | A                | 0.01523 |
| rs17076133| 13         | 30918058 | C                | 0.01134 |
| rs17076141| 13         | 30928865 | G                | 0.01172 |
| rs4943533 | 13         | 31011532 | G                | 0.00632 |
| rs4943664 | 13         | 31182311 | C                | 0.00701 |
| rs17076133| 13         | 30918058 | C                | 0.01134 |
| rs17076141| 13         | 30928865 | G                | 0.01172 |
| rs4943533 | 13         | 31011532 | G                | 0.00632 |
| rs4943664 | 13         | 31182311 | C                | 0.00701 |
| rs623441  | 13         | 31340015 | A                | 0.01070 |
| rs622702  | 13         | 31340347 | C                | 0.00809 |
| rs367507  | 13         | 31414037 | C                | 0.01418 |
| rs2285330 | 13         | 31619615 | C                | 0.00162 |
| rs798978  | 13         | 31638925 | T                | 0.01161 |
| rs9315157 | 13         | 31642352 | G                | 0.00172 |
| rs2428249 | 13         | 31674603 | A                | 0.00603 |
| rs798987  | 13         | 31685876 | T                | 0.01029 |
| rs4941701 | 13         | 32383476 | A                | 0.00146 |
| rs10492401| 13         | 32387672 | T                | 0.00820 |
| rs389891  | 13         | 32458034 | C                | 0.01205 |
| rs9527024 | 13         | 32525693 | A                | 0.00536 |
| rs9569021 | 13         | 32675206 | T                | 0.00342 |
| rs3135611 | 13         | 3304194  | G                | 0.00612 |
| rs5008744 | 13         | 33345299 | T                | 0.00682 |
| rs6562337 | 13         | 33637974 | G                | 0.00676 |
| rs11839186| 13         | 33691545 | A                | 0.00885 |
| rs9571278 | 13         | 33715579 | A                | 0.00329 |
| rs1147546 | 13         | 33754295 | A                | 0.00002 |
| rs10870673| 13         | 33854620 | C                | 0.00510 |
| rs1998660 | 13         | 34023387 | G                | 0.00948 |
| rs9564625 | 13         | 34224833 | G                | 0.00981 |
| rs7334657 | 13         | 3429033  | G                | 0.00382 |
| rs1323949 | 13         | 34329868 | C                | 0.00917 |
| rs2068335 | 13         | 35252243 | T                | 0.01249 |
| rs41464045| 13         | 35529355 | A                | 0.00841 |
| rs7992311 | 13         | 35870506 | C                | 0.00284 |
| rs594452  | 13         | 36144675 | G                | 0.01388 |
| rs4633574 | 13         | 36249756 | T                | 0.00646 |
| rs7333607 | 13         | 36360010 | A                | 0.00477 |
| rs12583353| 13         | 36965575 | G                | 0.00274 |
| rs1072781 | 13         | 36991541 | A                | 0.00642 |
| rs17255466| 13         | 36998807 | T                | 0.00120 |
| rs7995907 | 13         | 37033780 | G                | 0.00286 |
| rs9566247 | 13         | 37131370 | C                | 0.01320 |
| rs2202122 | 13         | 37703926 | A                | 0.00222 |
| rs7338934 | 13         | 37712629 | C                | 0.01255 |
| rs693729  | 13         | 37725978 | C                | 0.01285 |
| rsID           | Chromosome | Position   | Allele | P-value |
|---------------|------------|------------|--------|---------|
| rs9548385     | 13         | 38009269   | G      | 0.01497 |
| rs1945495     | 13         | 38371257   | T      | 0.01166 |
| rs12428445    | 13         | 38484051   | A      | 0.01480 |
| rs1536342     | 13         | 38535373   | T      | 0.01341 |
| rs768577      | 13         | 38813840   | A      | 0.00518 |
| rs276403      | 13         | 39483832   | G      | 0.00770 |
| rs9566503     | 13         | 39749098   | T      | 0.00014 |
| rs2701890     | 13         | 40017231   | C      | 0.00575 |
| rs4942014     | 13         | 40438502   | T      | 0.01555 |
| rs9594471     | 13         | 40460786   | A      | 0.00652 |
| rs7323105     | 13         | 41389479   | G      | 0.00365 |
| rs9533042     | 13         | 41699654   | C      | 0.01547 |
| rs238271      | 13         | 41831354   | A      | 0.00997 |
| rs17457561    | 13         | 41862203   | T      | 0.00514 |
| rs7987211     | 13         | 41864734   | A      | 0.00365 |
| rs4942131     | 13         | 41956974   | C      | 0.00239 |
| rs9525630     | 13         | 41958784   | A      | 0.00374 |
| rs168312      | 13         | 42019760   | C      | 0.01214 |
| rs9525641     | 13         | 42046024   | A      | 0.00794 |
| rs17597366    | 13         | 42190681   | G      | 0.00369 |
| rs1535902     | 13         | 42269359   | G      | 0.01018 |
| rs2104352     | 13         | 42331613   | T      | 0.00806 |
| rs12172797    | 13         | 42792796   | G      | 0.00699 |
| rs9567151     | 13         | 42807697   | A      | 0.00604 |
| rs9316052     | 13         | 43151109   | T      | 0.00355 |
| rs9525835     | 13         | 43216673   | T      | 0.00432 |
| rs9590787     | 13         | 43242300   | A      | 0.00721 |
| rs2282062     | 13         | 43704729   | A      | 0.01478 |
| rs4942352     | 13         | 44202415   | A      | 0.00120 |
| rs912160      | 13         | 44217586   | C      | 0.00248 |
| rs3904808     | 13         | 44235632   | G      | 0.01103 |
| rs1415641     | 13         | 44240453   | C      | 0.00341 |
| rs1886191     | 13         | 44525809   | G      | 0.00018 |
| rs3014909     | 13         | 45015836   | T      | 0.00235 |
| rs9526104     | 13         | 45193837   | G      | 0.00807 |
| rs3749397     | 13         | 45298852   | T      | 0.00711 |
| rs2766488     | 13         | 45361852   | G      | 0.00745 |
| rs2573260     | 13         | 45409518   | G      | 0.01204 |
| rs9316179     | 13         | 45539467   | C      | 0.01088 |
| rs17359763    | 13         | 46328603   | G      | 0.01303 |
| rs1855286     | 13         | 46644653   | A      | 0.01182 |
| rs            | Chromosome | Position     | Allele | p-value |
|--------------|------------|--------------|--------|---------|
| rs7333102    | 13         | 46756652     | C      | 0.01389 |
| rs9316293    | 13         | 46894461     | T      | 0.00260 |
| rs41431749   | 13         | 48106921     | G      | 0.00082 |
| rs3911101    | 13         | 48382578     | A      | 0.01434 |
| rs7981156    | 13         | 48828370     | T      | 0.00318 |
| rs9568363    | 13         | 49429768     | C      | 0.01079 |
| rs7333147    | 13         | 49643972     | T      | 0.01334 |
| rs2066613    | 13         | 49646219     | A      | 0.01595 |
| rs2066615    | 13         | 49649759     | G      | 0.01039 |
| rs1149839    | 13         | 49649964     | T      | 0.01485 |
| rs2066617    | 13         | 49650483     | G      | 0.01381 |
| rs2703075    | 13         | 49733969     | A      | 0.00639 |
| rs9562970    | 13         | 49900616     | A      | 0.01013 |
| rs2025944    | 13         | 50487102     | C      | 0.00251 |
| rs2094278    | 13         | 50626208     | C      | 0.00422 |
| rs7337236    | 13         | 50718345     | C      | 0.00063 |
| rs2296347    | 13         | 51626424     | C      | 0.00759 |
| rs7987314    | 13         | 52383154     | C      | 0.01187 |
| rs2208989    | 13         | 52425974     | C      | 0.00066 |
| rs4886137    | 13         | 52525355     | C      | 0.00938 |
| rs9568927    | 13         | 53261422     | T      | 0.01057 |
| rs1458277    | 13         | 53415541     | T      | 0.01460 |
| rs2408987    | 13         | 53557313     | C      | 0.00871 |
| rs7995015    | 13         | 53726962     | C      | 0.00765 |
| rs1413878    | 13         | 53726985     | C      | 0.00682 |
| rs7139767    | 13         | 53800590     | T      | 0.01326 |
| rs3125742    | 13         | 54629926     | G      | 0.00065 |
| rs1370079    | 13         | 54710942     | C      | 0.00513 |
| rs1436703    | 13         | 54730139     | T      | 0.01420 |
| rs7989059    | 13         | 54763118     | T      | 0.00022 |
| rs681846     | 13         | 55117315     | A      | 0.00323 |
| rs2315031    | 13         | 56012278     | C      | 0.00588 |
| rs9537493    | 13         | 56333987     | A      | 0.01013 |
| rs2152734    | 13         | 56453118     | C      | 0.00462 |
| rs2777625    | 13         | 56534058     | C      | 0.00685 |
| rs1412160    | 13         | 56727320     | A      | 0.00243 |
| rs1396761    | 13         | 56810406     | T      | 0.00512 |
| rs2186032    | 13         | 56848099     | A      | 0.00829 |
| rs4886014    | 13         | 56850408     | A      | 0.01040 |
| rs7339239    | 13         | 56861712     | G      | 0.01115 |
| rs9569702    | 13         | 56996265     | T      | 0.00618 |
| rs3012861    | 13         | 57584799     | T      | 0.00069 |
| rs1538856    | 13         | 58489593     | C      | 0.01027 |
| rs4886128    | 13         | 58670787     | T      | 0.00757 |
| SNP          | Chromosome | Position | Allele | Minor Allele Frequency |
|-------------|------------|----------|--------|------------------------|
| rs7329285   | 13         | 58810787 | C      | 0.01016                |
| rs9563740   | 13         | 59038977 | C      | 0.00814                |
| rs11148489  | 13         | 59674961 | C      | 0.01330                |
| rs1341844   | 13         | 59700127 | C      | 0.00388                |
| rs9570276   | 13         | 59706318 | T      | 0.00566                |
| rs7317551   | 13         | 59853048 | C      | 0.00251                |
| rs9563740   | 13         | 59038977 | C      | 0.00814                |
| rs11148489  | 13         | 59674961 | C      | 0.01330                |
| rs1341844   | 13         | 59700127 | C      | 0.00388                |
| rs9570276   | 13         | 59706318 | T      | 0.00566                |
| rs7317551   | 13         | 59853048 | C      | 0.00251                |
| SNP      | Chromosome | Position   | Allele | Minor Allele Frequency |
|----------|------------|------------|--------|------------------------|
| rs9599636 | 13         | 69823439   | G      | 0.00216                |
| rs12859922 | 13        | 69849063   | G      | 0.01319                |
| rs12858938 | 13        | 69849087   | C      | 0.01154                |
| rs2151491  | 13         | 69862904   | A      | 0.00045                |
| rs868350   | 13         | 70016980   | T      | 0.01396                |
| rs7998428  | 13         | 70666733   | A      | 0.01530                |
| rs4883888  | 13         | 70678112   | A      | 0.01385                |
| rs11843100 | 13         | 70892546   | G      | 0.01405                |
| rs9542745  | 13         | 71220849   | T      | 0.00286                |
| rs9542808  | 13         | 71486210   | C      | 0.00655                |
| rs1460446  | 13         | 71505941   | C      | 0.01149                |
| rs2706411  | 13         | 71517526   | C      | 0.00847                |
| rs869877   | 13         | 74180466   | T      | 0.00756                |
| rs9599954  | 13         | 71823339   | G      | 0.01286                |
| rs9565072  | 13         | 73019632   | C      | 0.01329                |
| rs9530473  | 13         | 73537800   | A      | 0.00824                |
| rs9593015  | 13         | 74128389   | G      | 0.00775                |
| rs7328848  | 13         | 76261770   | C      | 0.01348                |
| rs618975   | 13         | 76364236   | T      | 0.00845                |
| rs9574037  | 13         | 76828377   | T      | 0.00136                |
| rs10507874 | 13         | 77290759   | G      | 0.00085                |
| rs2585483  | 13         | 77546024   | T      | 0.00617                |
| rs17070021 | 13         | 78046684   | T      | 0.00016                |
| SNP         | Chromosome | Position   | Allele | P-value |
|------------|------------|------------|--------|---------|
| rs17070292 | 13         | 78259122   | C      | 0.00578 |
| rs9544892  | 13         | 78315763   | G      | 0.00420 |
| rs1372177  | 13         | 78469870   | C      | 0.00486 |
| rs3910574  | 13         | 79496358   | T      | 0.00001 |
| rs9545302  | 13         | 79500112   | A      | 0.00250 |
| rs9545411  | 13         | 79824658   | C      | 0.00084 |
| rs6650455  | 13         | 79857101   | T      | 0.01191 |
| rs1772580  | 13         | 80084744   | T      | 0.00741 |
| rs4379965  | 13         | 80391966   | C      | 0.01294 |
| rs4312196  | 13         | 80392312   | T      | 0.00939 |
| rs2478216  | 13         | 80394914   | C      | 0.00435 |
| rs1333420  | 13         | 80654428   | C      | 0.01359 |
| rs9545673  | 13         | 80891072   | T      | 0.00252 |
| rs261446   | 13         | 81198982   | T      | 0.00979 |
| rs1386707  | 13         | 82358590   | A      | 0.00201 |
| rs1906327  | 13         | 82455235   | C      | 0.01508 |
| rs9546594  | 13         | 83553225   | A      | 0.01558 |
| rs4303371  | 13         | 83699592   | G      | 0.00854 |
| rs9602431  | 13         | 83759840   | T      | 0.00464 |
| rs9531642  | 13         | 84149640   | T      | 0.00701 |
| rs9575699  | 13         | 84446595   | A      | 0.01301 |
| rs12866503 | 13         | 84765153   | A      | 0.00250 |
| rs17354288 | 13         | 84788717   | G      | 0.01115 |
| rs9547249  | 13         | 84991717   | G      | 0.01400 |
| rs9520260  | 13         | 87780609   | C      | 0.01451 |
| rs10507973 | 13         | 88037911   | G      | 0.00319 |
| rs4483720  | 13         | 88039407   | C      | 0.01078 |
| rs4773046  | 13         | 88057930   | A      | 0.01143 |
| rs1536355  | 13         | 88067963   | A      | 0.00412 |
| rs1326426  | 13         | 88073196   | A      | 0.00902 |
| rs9521628  | 13         | 88099356   | C      | 0.00766 |
| rs9521690  | 13         | 88114373   | G      | 0.01513 |
| rs41478745 | 13         | 88382923   | G      | 0.00988 |
| rs11069912 | 13         | 88471180   | T      | 0.00951 |
| rs9522430  | 13         | 88534365   | T      | 0.00133 |
| rs9588713  | 13         | 89119923   | G      | 0.01133 |
| rs2153718  | 13         | 89370256   | A      | 0.00517 |
| rs2805665  | 13         | 89491459   | A      | 0.01050 |
| rs12867513 | 13         | 89727003   | C      | 0.01177 |
| rs9560600  | 13         | 89727127   | G      | 0.01318 |
| rs9515763  | 13         | 89960370   | C      | 0.00193 |
| rs16945688 | 13         | 90716800   | T      | 0.00109 |
| rs1330469  | 13         | 91346842   | C      | 0.00148 |
| rs9301773  | 13         | 91494163   | G      | 0.00998 |
| SNP          | Chromosome | Position | Allele | p-value |
|--------------|------------|----------|--------|---------|
| rs7993910    | 13         | 91557014 | C      | 0.01485 |
| rs9560983    | 13         | 91674934 | A      | 0.01116 |
| rs9561026    | 13         | 91823052 | T      | 0.00417 |
| rs2209834    | 13         | 91865069 | C      | 0.00565 |
| rs696931     | 13         | 92516009 | A      | 0.01587 |
| rs1838355    | 13         | 92521689 | A      | 0.00798 |
| rs1444231    | 13         | 92525871 | C      | 0.01026 |
| rs1887708    | 13         | 92686244 | A      | 0.01583 |
| rs9561026    | 13         | 92898105 | A      | 0.01250 |
| rs1562190    | 13         | 93020321 | C      | 0.00102 |
| rs6492702    | 13         | 93841787 | C      | 0.01664 |
| rs7337871    | 13         | 94144182 | G      | 0.00025 |
| rs17196506   | 13         | 94317286 | C      | 0.00574 |
| rs16950278   | 13         | 94331307 | C      | 0.01639 |
| rs9590101    | 13         | 94341946 | G      | 0.00499 |
| rs9590106    | 13         | 94349071 | A      | 0.00489 |
| rs9590108    | 13         | 94349285 | G      | 0.01601 |
| rs2148058    | 13         | 94350366 | G      | 0.01617 |
| rs2182263    | 13         | 94350426 | A      | 0.01397 |
| rs9302014    | 13         | 94351657 | A      | 0.00120 |
| rs9561719    | 13         | 94357429 | G      | 0.01394 |
| rs1925857    | 13         | 94385074 | C      | 0.01002 |
| rs9524711    | 13         | 94410370 | T      | 0.01457 |
| rs7995795    | 13         | 95020532 | G      | 0.00561 |
| rs9561965    | 13         | 95297574 | G      | 0.01181 |
| rs7990583    | 13         | 95863471 | T      | 0.00313 |
| rs16953447   | 13         | 95929422 | C      | 0.00841 |
| rs16953634   | 13         | 96332224 | C      | 0.01034 |
| rs9513199    | 13         | 96443969 | G      | 0.00730 |
| rs9516802    | 13         | 96455117 | G      | 0.00794 |
| rs4456365    | 13         | 96616515 | T      | 0.00482 |
| rs1316549    | 13         | 96764269 | T      | 0.00364 |
| rs6491350    | 13         | 96805016 | C      | 0.00431 |
| rs16954076   | 13         | 96852593 | T      | 0.00857 |
| rs7339318    | 13         | 97250777 | G      | 0.00155 |
| rs7326592    | 13         | 97511170 | T      | 0.01572 |
| rs12875913   | 13         | 97569539 | G      | 0.00183 |
| rs9554468    | 13         | 97880603 | C      | 0.00327 |
| rs9556972    | 13         | 98007816 | T      | 0.00122 |
| rs4578508    | 13         | 98096707 | A      | 0.01260 |
| rs2184903    | 13         | 98096810 | G      | 0.00345 |
| rs9554486    | 13         | 98103632 | G      | 0.01165 |
| rs4412849    | 13         | 98113794 | A      | 0.00776 |
| rs9557025    | 13         | 98120753 | A      | 0.00933 |
| rsID       | Chromosome | Position   | Allele | p-value |
|------------|------------|------------|--------|---------|
| rs3782999  | 13         | 98168486   | C      | 0.01321 |
| rs2296999  | 13         | 98348352   | A      | 0.00467 |
| rs2182885  | 13         | 98653125   | A      | 0.00084 |
| rs4772214  | 13         | 98953078   | G      | 0.00246 |
| rs9557247  | 13         | 98967826   | T      | 0.01242 |
| rs9585118  | 13         | 98988505   | C      | 0.00083 |
| rs9585127  | 13         | 99003333   | T      | 0.00583 |
| rs9554617  | 13         | 99065193   | T      | 0.00680 |
| rs7991210  | 13         | 99549906   | A      | 0.00404 |
| rs4772342  | 13         | 100370899  | A      | 0.00538 |
| rs1886853  | 13         | 100428464  | C      | 0.00558 |
| rs12583815 | 13         | 100438101  | G      | 0.00125 |
| rs2765320  | 13         | 100465089  | C      | 0.00052 |
| rs659272   | 13         | 100501882  | T      | 0.00999 |
| rs16959621 | 13         | 101470203  | T      | 0.00011 |
| rs537642   | 13         | 101603591  | A      | 0.01403 |
| rs1360985  | 13         | 101721943  | A      | 9.75800 |
| rs1415057  | 13         | 101724665  | G      | 0.00650 |
| rs1336664  | 13         | 101752488  | T      | 0.00193 |
| rs17506875 | 13         | 102045515  | T      | 0.00889 |
| rs701559   | 13         | 102413583  | G      | 0.01139 |
| rs7322528  | 13         | 102430390  | C      | 0.00015 |
| rs7327964  | 13         | 102784286  | T      | 0.01087 |
| rs1571628  | 13         | 102888167  | C      | 0.00772 |
| rs9300855  | 13         | 103152012  | C      | 0.01307 |
| rs9558198  | 13         | 103334252  | G      | 0.00074 |
| rs16963727 | 13         | 103347771  | C      | 0.00319 |
| rs2806805  | 13         | 103370723  | T      | 0.01542 |
| rs16964387 | 13         | 103679979  | G      | 0.01134 |
| rs7322187  | 13         | 103914442  | C      | 0.00374 |
| rs9586517  | 13         | 103914702  | A      | 0.01201 |
| rs9514269  | 13         | 103921100  | A      | 0.01577 |
| rs9300934  | 13         | 103933101  | T      | 0.00550 |
| rs9582875  | 13         | 103938575  | T      | 0.01544 |
| rs9519381  | 13         | 104019769  | A      | 0.00161 |
| rs930268   | 13         | 104050671  | A      | 0.00376 |
| rs4772641  | 13         | 104279301  | T      | 0.01232 |
| rs7139453  | 13         | 104515664  | A      | 0.01184 |
| rs7316970  | 13         | 104515799  | C      | 0.01468 |
| rs3916959  | 13         | 104640379  | C      | 0.00908 |
| rs11618600 | 13         | 104954122  | G      | 0.00597 |
| rs1981272  | 13         | 104968003  | T      | 0.01012 |
| rs4523809  | 13         | 105159394  | G      | 0.01530 |
| rs9519746  | 13         | 105159963  | C      | 0.00208 |
| SNP       | Chromosome | Position   | Allele | p-value |
|-----------|------------|------------|--------|---------|
| rs10508164 | 13         | 105200821  | A      | 0.00223 |
| rs2476760  | 13         | 105288687  | T      | 0.01212 |
| rs2476761  | 13         | 105311957  | C      | 0.00105 |
| rs7318970  | 13         | 105371531  | T      | 0.00116 |
| rs17519864 | 13         | 105490805  | A      | 0.00601 |
| rs7328698  | 13         | 105939350  | G      | 0.01616 |
| rs2476761  | 13         | 105939434  | T      | 0.01639 |
| rs4772857  | 13         | 106615670  | A      | 0.00627 |
| rs7317693  | 13         | 106648992  | T      | 0.00598 |
| rs750094   | 13         | 106666491  | C      | 0.00088 |
| rs957788   | 13         | 107055221  | C      | 0.00026 |
| rs2391610  | 13         | 107468407  | G      | 0.01558 |
| rs12861715 | 13         | 107801346  | T      | 0.00817 |
| rs16972960 | 13         | 108157692  | T      | 0.01304 |
| rs7997299  | 13         | 108624329  | A      | 0.00245 |
| rs7490337  | 13         | 108850730  | A      | 0.01659 |
| rs7997265  | 13         | 109091458  | G      | 0.01174 |
| rs12865636 | 13         | 109097925  | A      | 0.00980 |
| rs1029204  | 13         | 109479213  | T      | 0.01213 |
| rs11069820 | 13         | 109512669  | T      | 0.01201 |
| rs1886871  | 13         | 11001418   | G      | 0.00279 |
| rs7394     | 13         | 110090045  | C      | 0.00005 |
| rs445490   | 13         | 110104108  | G      | 0.00732 |
| rs7323834  | 13         | 110252125  | A      | 0.00164 |
| rs7319972  | 13         | 110254929  | A      | 0.01186 |
| rs9522028  | 13         | 110413710  | T      | 0.00549 |
| rs7317887  | 13         | 110455200  | C      | 0.01529 |
| rs8000668  | 13         | 110466673  | C      | 0.00243 |
| rs9559946  | 13         | 110498107  | A      | 0.01663 |
| rs12860209 | 13         | 110823973  | A      | 0.01522 |
| rs9560136  | 13         | 111062615  | A      | 0.01387 |
| rs2318060  | 13         | 111586106  | G      | 0.00166 |
| rs9577645  | 13         | 111893886  | T      | 0.00977 |
| rs7324712  | 13         | 112080916  | C      | 0.01068 |
| rs10816    | 13         | 112101471  | A      | 0.00404 |
| rs9550070  | 13         | 112101811  | G      | 0.00579 |
| rs4907533  | 13         | 112199342  | C      | 0.01345 |
| rs9577814  | 13         | 112273716  | C      | 0.00188 |
| rs9604441  | 13         | 112485261  | C      | 0.01429 |
| rs4907584  | 13         | 112775615  | G      | 0.00765 |
| rs4150729  | 13         | 113313306  | G      | 0.01034 |
| rs9590464  | 13         | 113941987  | G      | 0.01440 |
| rs7983955  | 13         | 113968129  | T      | 0.00394 |
| rs          | Chromosome | Position     | Allele | p-value |
|------------|------------|--------------|--------|---------|
| rs1780870  | 14         | 19362325     | G      | 0.01269 |
| rs10130102 | 14         | 19362693     | T      | 0.00728 |
| rs7156327  | 14         | 19648010     | G      | 0.01195 |
| rs1188561  | 14         | 19725306     | A      | 0.01585 |
| rs1760955  | 14         | 19957802     | C      | 0.00244 |
| rs12436843 | 14         | 19961438     | T      | 0.00672 |
| rs8004317  | 14         | 20249121     | G      | 0.01069 |
| rs11156644 | 14         | 20271429     | A      | 0.00997 |
| rs1188561  | 14         | 20299145     | G      | 0.01195 |
| rs1760955  | 14         | 21171249     | G      | 0.01050 |
| rs17255021 | 14         | 21369821     | C      | 0.00292 |
| rs932230   | 14         | 21536574     | T      | 0.00812 |
| rs932231   | 14         | 21536724     | G      | 0.00833 |
| rs11625840 | 14         | 21697688     | A      | 0.00833 |
| rs9323108  | 14         | 21723598     | C      | 0.00410 |
| rs4981415  | 14         | 21784072     | G      | 0.00527 |
| rs11157474 | 14         | 21784363     | G      | 0.01616 |
| rs17115728 | 14         | 21785191     | G      | 0.01335 |
| rs10142543 | 14         | 21933450     | G      | 0.00870 |
| rs5742875  | 14         | 22103383     | C      | 0.01100 |
| rs1753429  | 14         | 22172624     | G      | 0.00307 |
| rs4982676  | 14         | 22347843     | A      | 0.01389 |
| rs7157021  | 14         | 22668792     | C      | 0.00416 |
| rs3729829  | 14         | 22955727     | T      | 0.01374 |
| rs17093091 | 14         | 23024732     | T      | 0.00080 |
| rs854431   | 14         | 24300984     | T      | 0.01423 |
| rs854379   | 14         | 24339998     | T      | 0.00795 |
| rs2480354  | 14         | 24406061     | T      | 0.00587 |
| rs17109366 | 14         | 24498867     | C      | 0.00488 |
| rs17109462 | 14         | 24536305     | A      | 0.00316 |
| rs10151968 | 14         | 24538105     | A      | 0.00082 |
| rs17257822 | 14         | 24615166     | T      | 0.00795 |
| rs11159287 | 14         | 24960206     | G      | 0.00413 |
| rs4140868  | 14         | 25669332     | C      | 0.01242 |
| rs12888264 | 14         | 25846016     | A      | 0.00710 |
| rs11627156 | 14         | 26195356     | C      | 0.01118 |
| rs17112954 | 14         | 27184481     | A      | 0.00322 |
| rs17113090 | 14         | 27269306     | A      | 0.00700 |
| rs2180890  | 14         | 27943078     | C      | 0.00784 |
| rs1955440  | 14         | 28338910     | G      | 0.01329 |
| rs17114622 | 14         | 28747626     | T      | 0.00761 |
| rs4981696  | 14         | 28781556     | T      | 0.00293 |
| rs12893007 | 14         | 28969436     | A      | 0.00029 |
| rs1191566  | 14         | 29039352     | T      | 0.00134 |
| SNP         | Chromosome | Position   | Allele | P-value |
|-------------|------------|------------|--------|---------|
| rs17096419  | 14         | 29748277   | C      | 0.01484 |
| rs11629275  | 14         | 29749441   | G      | 0.00640 |
| rs7148020   | 14         | 29834938   | G      | 0.01144 |
| rs10144249  | 14         | 29993122   | G      | 0.00652 |
| rs4981770   | 14         | 30265856   | C      | 0.01565 |
| rs9322887   | 14         | 31560104   | A      | 0.00860 |
| rs4982063   | 14         | 32794582   | C      | 0.01565 |
| rs11851892  | 14         | 32921165   | A      | 0.00089 |
| rs1609496   | 14         | 32931905   | T      | 0.00093 |
| rs7101083   | 14         | 32965666   | T      | 0.01095 |
| rs10498318  | 14         | 33249118   | C      | 0.01446 |
| rs8017055   | 14         | 33312734   | T      | 0.01128 |
| rs12895061  | 14         | 33316845   | A      | 0.01575 |
| rs11629275  | 14         | 33321966   | A      | 0.00112 |
| rs4146554   | 14         | 33353940   | C      | 0.00702 |
| rs10132973  | 14         | 33594964   | T      | 0.00305 |
| rs1652947   | 14         | 33664812   | A      | 0.01336 |
| rs2210068   | 14         | 33808322   | G      | 0.00992 |
| rs7151133   | 14         | 34039157   | T      | 0.00703 |
| rs4981250   | 14         | 34324224   | C      | 12.88600 |
| rs2273158   | 14         | 34535535   | A      | 0.01267 |
| rs3138053   | 14         | 34944605   | A      | 0.00665 |
| rs6571727   | 14         | 35210859   | A      | 0.00210 |
| rs9944080   | 14         | 35496774   | A      | 0.00078 |
| rs376927    | 14         | 35617682   | A      | 0.00642 |
| rs11622332  | 14         | 36159780   | G      | 0.00181 |
| rs1955753   | 14         | 36189652   | G      | 0.00930 |
| rs6571755   | 14         | 36190727   | T      | 0.00407 |
| rs7148646   | 14         | 36476787   | A      | 0.00883 |
| rs2006729   | 14         | 36937036   | C      | 0.01234 |
| rs11156974  | 14         | 37427615   | G      | 0.00646 |
| rs2415456   | 14         | 37714254   | C      | 0.01562 |
| rs2415458   | 14         | 37715384   | G      | 0.00166 |
| rs2899868   | 14         | 37715734   | G      | 0.00194 |
| rs10147944  | 14         | 37717436   | A      | 0.00017 |
| rs7145965   | 14         | 37874184   | T      | 0.00699 |
| rs11157003  | 14         | 38013117   | A      | 0.00179 |
| rs4400953   | 14         | 38307865   | T      | 0.00065 |
| rs17108552  | 14         | 38447512   | T      | 0.00034 |
| rs8014887   | 14         | 38604340   | A      | 0.00376 |
| rs4902622   | 14         | 38958523   | C      | 0.00761 |
| rs2057137   | 14         | 39013292   | T      | 0.01630 |
| rs17769386  | 14         | 39309123   | C      | 0.00503 |
| rs10134529  | 14         | 39478291   | G      | 0.01480 |
rs11623348 14 39693349 T 0.00366
rs1569790 14 39885471 T 0.00527
rs4903754 14 39935520 C 0.00282
rs8181915 14 39949725 G 0.01261
rs7156053 14 3998166 T 0.01311
rs12587411 14 40094252 A 0.01025
rs12889656 14 40566277 A 0.00260
rs4304945 14 41290670 A 0.00012
rs2031271 14 41414572 C 0.00975
rs17181811 14 41443589 G 0.00800
rs1684689 14 41514751 G 0.01239
rs1763302 14 41598712 G 0.01540
rs17113572 14 42397240 T 0.01605
rs17113932 14 42681506 G 0.01258
rs2807800 14 42747818 A 0.00446
rs17114079 14 42827908 T 0.01427
rs2029727 14 42896754 C 0.00649
rs1952381 14 43427391 A 0.01455
rs7153093 14 43604910 T 0.00279
rs8011828 14 44407452 G 0.00892
rs6572324 14 45380752 A 0.01521
rs12148021 14 45457913 C 0.00825
rs762015 14 45505234 G 0.00542
rs1951317 14 45521429 T 0.01189
rs11849729 14 45564779 A 0.01584
rs9805956 14 45565893 A 0.00517
rs1957190 14 45567885 A 0.00174
rs4491418 14 45575579 G 0.01175
rs1957187 14 45580798 A 0.00629
rs17574942 14 46802994 A 0.00125
rs10467790 14 46979994 G 0.00490
rs1879518 14 47492093 C 0.00463
rs1769526 14 47842679 T 0.00588
rs6572520 14 48369944 A 0.00164
rs7493522 14 48874931 T 0.01061
rs17698128 14 48899235 G 0.00248
rs12590483 14 48985385 G 0.00965
rs10483556 14 49029992 A 0.01275
rs8009047 14 49038646 A 0.01647
rs7145941 14 49056851 T 0.01376
rs3100876 14 49442927 G 0.00743
rs7155791 14 49487980 T 0.00649
rs3825575 14 49536269 T 0.01306
rs7146139 14 50320907 C 0.00789
| SNP       | Chrom | Start   | Allele | p-value |
|-----------|-------|---------|--------|---------|
| rs1959527 | 14    | 50442083| G      | 0.00294 |
| rs10483607| 14    | 50533072| C      | 0.00995 |
| rs12147302| 14    | 51330913| T      | 0.00125 |
| rs4901265 | 14    | 51806327| G      | 0.00264 |
| rs4898758 | 14    | 51806518| G      | 0.01261 |
| rs34246750| 14    | 51938507| C      | 0.00288 |
| rs11157928| 14    | 52220940| T      | 0.01000 |
| rs9989200 | 14    | 52542080| A      | 0.01543 |
| rs1255320 | 14    | 52886261| A      | 0.00178 |
| rs1255281 | 14    | 52898072| G      | 0.00036 |
| rs11157980| 14    | 53380347| T      | 0.00715 |
| rs6572927 | 14    | 53503140| T      | 0.00360 |
| rs7159423 | 14    | 54150084| C      | 0.01141 |
| rs8018800 | 14    | 54523056| T      | 0.00068 |
| rs8019080 | 14    | 54961125| T      | 0.01504 |
| rs11851435| 14    | 54991314| G      | 0.00902 |
| rs10483647| 14    | 55173635| G      | 0.01411 |
| rs12323476| 14    | 55242475| T      | 0.00239 |
| rs17090962| 14    | 55624732| A      | 0.01033 |
| rs17090964| 14    | 55624828| C      | 0.00436 |
| rs7153608 | 14    | 55634972| G      | 0.01341 |
| rs8009841 | 14    | 55801045| C      | 0.01071 |
| rs17769866| 14    | 55859466| C      | 0.01422 |
| rs4553529 | 14    | 56098231| C      | 0.00427 |
| rs12436338| 14    | 56200540| A      | 0.00105 |
| rs12435979| 14    | 56307190| C      | 0.01596 |
| rs12436671| 14    | 56307786| A      | 0.01471 |
| rs198228  | 14    | 56312173| T      | 0.00804 |
| rs2104718 | 14    | 56395127| A      | 0.00916 |
| rs709969  | 14    | 56461686| G      | 0.00632 |
| rs8021033 | 14    | 57000298| A      | 0.01398 |
| rs8021172 | 14    | 57000360| T      | 0.00316 |
| rs1152522 | 14    | 57018133| C      | 0.00825 |
| rs17795775| 14    | 57068620| G      | 0.00674 |
| rs4901827 | 14    | 57373556| T      | 0.01143 |
| rs17093847| 14    | 57429212| A      | 0.00984 |
| rs17093849| 14    | 57429606| T      | 0.01134 |
| rs17094355| 14    | 57643132| A      | 0.01167 |
| rs710018  | 14    | 58233376| A      | 0.01533 |
| rs177727  | 14    | 58447201| T      | 0.00114 |
| rs10141742| 14    | 58475842| C      | 0.01122 |
| rs2882029 | 14    | 58494767| G      | 0.00403 |
| rs1950682 | 14    | 58526297| T      | 0.00825 |
| rs17095853| 14    | 58740427| C      | 0.01505 |
| SNP          | Chromosome | Position   | Allele | p-value |
|-------------|------------|------------|--------|---------|
| rs17833810  | 14         | 58767499   | A      | 0.00309 |
| rs17095965  | 14         | 58794834   | G      | 0.01485 |
| rs17096006  | 14         | 58810870   | C      | 0.00289 |
| rs7155203   | 14         | 58817716   | C      | 6.24600 |
| rs8181987   | 14         | 58820238   | C      | 0.01470 |
| rs3850302   | 14         | 58927330   | T      | 0.00563 |
| rs7155203   | 14         | 59022654   | G      | 0.01260 |
| rs17255787  | 14         | 59219012   | G      | 0.00707 |
| rs12897336  | 14         | 59385633   | G      | 0.01221 |
| rs3850302   | 14         | 59496656   | G      | 0.00778 |
| rs17310036  | 14         | 59758931   | C      | 0.00891 |
| rs10147559  | 14         | 60101037   | G      | 0.00002 |
| rs8181987   | 14         | 60195789   | A      | 0.00419 |
| rs1018457   | 14         | 60228623   | G      | 0.01451 |
| rs2882684   | 14         | 60486215   | T      | 0.01375 |
| rs912618    | 14         | 61003344   | C      | 0.00661 |
| rs12883769  | 14         | 61060614   | A      | 0.00044 |
| rs2105073   | 14         | 61100961   | G      | 0.00709 |
| rs798788    | 14         | 61108248   | G      | 0.00061 |
| rs8005664   | 14         | 61600389   | G      | 0.00885 |
| rs10147559  | 14         | 61658369   | C      | 0.00047 |
| rs2078082   | 14         | 61936786   | G      | 0.00477 |
| rs4902147   | 14         | 62063692   | A      | 0.00631 |
| rs8004475   | 14         | 62202285   | T      | 0.00765 |
| rs1950987   | 14         | 62569493   | A      | 0.00848 |
| rs7152965   | 14         | 62711170   | T      | 0.00003 |
| rs762102    | 14         | 62748675   | C      | 0.00242 |
| rs9323443   | 14         | 63478768   | G      | 0.01073 |
| rs1262235   | 14         | 63483936   | G      | 0.01535 |
| rs1255971   | 14         | 63604909   | C      | 0.00497 |
| rs17101651  | 14         | 63631077   | G      | 0.01441 |
| rs1109608   | 14         | 64300706   | A      | 0.01206 |
| rs17826231  | 14         | 64365352   | C      | 0.00690 |
| rs2898885   | 14         | 64491027   | A      | 0.01323 |
| rs4499147   | 14         | 64511314   | A      | 0.01496 |
| rs2268962   | 14         | 65217026   | T      | 0.00294 |
| rs7142317   | 14         | 65472901   | C      | 0.00809 |
| rs11460321  | 14         | 65507316   | G      | 0.00365 |
| rs1147441   | 14         | 65539347   | G      | 0.01151 |
| rs1838332   | 14         | 65587002   | C      | 0.00039 |
| rs8005105   | 14         | 65824990   | A      | 0.00089 |
| rs8020532   | 14         | 65956469   | A      | 0.00100 |
| rs8022328 | 14 | 66322788 | A | 0.00063 |
| rs8006273 | 14 | 67066476 | A | 0.00445 |
| rs9449 | 14 | 67283166 | G | 0.00013 |
| rs11158693 | 14 | 67311014 | G | 0.00632 |
| rs8018477 | 14 | 67902720 | A | 0.01391 |
| rs1885014 | 14 | 67914548 | G | 0.01488 |
| rs3784119 | 14 | 67944813 | G | 0.00255 |
| rs1956534 | 14 | 67963825 | G | 0.00205 |
| rs4902602 | 14 | 68111085 | A | 0.00584 |
| rs11158693 | 14 | 68333094 | C | 0.01665 |
| rs9323521 | 14 | 68622880 | A | 0.00455 |
| rs2001355 | 14 | 68630946 | C | 0.01321 |
| rs8019166 | 14 | 69309679 | T | 0.01440 |
| rs149250 | 14 | 69599208 | C | 0.01258 |
| rs150951 | 14 | 69605628 | C | 0.01337 |
| rs150950 | 14 | 69605652 | A | 0.01002 |
| rs150949 | 14 | 69605686 | C | 0.01221 |
| rs150948 | 14 | 69605873 | C | 0.01503 |
| rs12883784 | 14 | 69617703 | C | 0.01162 |
| rs4331283 | 14 | 69809307 | T | 0.00833 |
| rs1060681 | 14 | 69906506 | A | 0.00445 |
| rs2332431 | 14 | 70145604 | G | 0.01586 |
| rs4902846 | 14 | 70288963 | A | 0.00476 |
| rs4902852 | 14 | 70302669 | C | 0.00679 |
| rs7155910 | 14 | 70344430 | T | 0.00689 |
| rs1024512 | 14 | 70379416 | A | 0.00638 |
| rs11848070 | 14 | 70577354 | T | 0.00670 |
| rs7158714 | 14 | 7070015 | C | 0.01463 |
| rs7161176 | 14 | 72047594 | C | 0.01039 |
| rs11628539 | 14 | 72077931 | T | 0.00117 |
| rs2333022 | 14 | 72569867 | G | 0.00591 |
| rs362341 | 14 | 72711211 | T | 0.00047 |
| rs17094045 | 14 | 73466004 | T | 0.00230 |
| rs4646859 | 14 | 73618001 | G | 0.01199 |
| rs4899530 | 14 | 74235578 | A | 0.00791 |
| rs6574189 | 14 | 74236246 | T | 0.01204 |
| rs17782683 | 14 | 74237459 | G | 0.00336 |
| rs732765 | 14 | 74435482 | A | 0.01202 |
| rs1008436 | 14 | 74856838 | C | 0.00689 |
| rs12431544 | 14 | 74899572 | G | 0.00027 |
| rs12590700 | 14 | 74899937 | C | 0.00190 |
| rs8006018 | 14 | 74901110 | C | 0.01195 |
| rs7153959 | 14 | 75663607 | G | 0.00444 |
| SNP          | Chromosome | Position       | Allele | P-value |
|--------------|------------|----------------|--------|---------|
| rs935334     | 14         | 75683431       | A      | 0.00553 |
| rs1900125    | 14         | 75727223       | G      | 0.00979 |
| rs11623322   | 14         | 75855290       | T      | 0.01556 |
| rs7150681    | 14         | 75872362       | T      | 0.00500 |
| rs8021398    | 14         | 75916679       | C      | 0.00991 |
| rs1642821    | 14         | 76137298       | G      | 0.01356 |
| rs1467375    | 14         | 76401158       | C      | 0.00764 |
| rs388764     | 14         | 76762509       | A      | 0.00518 |
| rs2049818    | 14         | 77723325       | C      | 0.00615 |
| rs10133718   | 14         | 78268121       | G      | 0.00269 |
| rs31420      | 14         | 78499684       | C      | 0.01208 |
| rs17108429   | 14         | 78500348       | A      | 0.00604 |
| rs7153625    | 14         | 79119015       | A      | 0.01239 |
| rs221492     | 14         | 79161922       | T      | 0.01298 |
| rs8011654    | 14         | 79343602       | C      | 0.00055 |
| rs10483937   | 14         | 79443521       | T      | 0.01514 |
| rs1534835    | 14         | 79452128       | T      | 0.00214 |
| rs17175981   | 14         | 79604883       | C      | 0.01080 |
| rs1388382    | 14         | 79654454       | G      | 0.00808 |
| rs2267873    | 14         | 79743567       | T      | 0.01611 |
| rs2295138    | 14         | 79813376       | C      | 0.01051 |
| rs9989235    | 14         | 79837480       | G      | 0.00320 |
| rs2160355    | 14         | 79841000       | C      | 0.00950 |
| rs10142839   | 14         | 79947871       | G      | 0.00313 |
| rs6574600    | 14         | 80213895       | G      | 0.01636 |
| rs917986     | 14         | 80540408       | G      | 0.00732 |
| rs6574663    | 14         | 81122839       | A      | 0.00738 |
| rs17116374   | 14         | 81668270       | T      | 0.00726 |
| rs1242558    | 14         | 82305174       | A      | 0.00900 |
| rs17118771   | 14         | 83058938       | C      | 0.00806 |
| rs945347     | 14         | 83159821       | T      | 0.00351 |
| rs1952530    | 14         | 83253775       | A      | 0.00465 |
| rs8020352    | 14         | 83287890       | A      | 0.00922 |
| rs17119232   | 14         | 83429313       | A      | 0.00706 |
| rs7157753    | 14         | 83515016       | T      | 0.01130 |
| rs8006640    | 14         | 83979059       | A      | 0.01011 |
| rs12883344   | 14         | 83981301       | C      | 0.00571 |
| rs1375450    | 14         | 83994725       | A      | 0.00870 |
| rs2765912    | 14         | 84245069       | C      | 0.00804 |
| rs1667507    | 14         | 84773762       | A      | 0.01413 |
| rs17710010   | 14         | 85051048       | A      | 0.00075 |
| rs12897255   | 14         | 85288372       | C      | 0.01541 |
| rs17730580   | 14         | 85291664       | G      | 0.00402 |
| rs8003269    | 14         | 85306119       | C      | 0.01388 |
| Variant     | Chromosome | Position   | Allele | P-value |
|-------------|------------|------------|--------|---------|
| rs17736583  | 14         | 85321268   | G      | 0.01154 |
| rs11851223  | 14         | 85335323   | G      | 9.86200 |
| rs10149765  | 14         | 85789333   | T      | 0.00126 |
| rs2135102   | 14         | 85796095   | A      | 0.00670 |
| rs4899891   | 14         | 85796535   | G      | 0.00283 |
| rs1505163   | 14         | 85813242   | G      | 0.00058 |
| rs7144626   | 14         | 85817489   | G      | 0.00591 |
| rs17684800  | 14         | 85986767   | C      | 0.00005 |
| rs17259285  | 14         | 86443584   | T      | 0.00414 |
| rs12893295  | 14         | 86763989   | G      | 0.00922 |
| rs2163315   | 14         | 86949005   | G      | 0.00041 |
| rs8014135   | 14         | 87119520   | C      | 0.00158 |
| rs12435864  | 14         | 87398733   | A      | 0.00285 |
| rs10484007  | 14         | 88452101   | C      | 0.00481 |
| rs17716878  | 14         | 88750773   | C      | 0.00856 |
| rs7148718   | 14         | 89322362   | G      | 0.01488 |
| rs17260618  | 14         | 89650740   | C      | 0.01147 |
| rs2282031   | 14         | 89800696   | G      | 0.00962 |
| rs10129175  | 14         | 89954662   | T      | 0.00728 |
| rs2215719   | 14         | 90007493   | T      | 0.01453 |
| rs1286293   | 14         | 90380657   | T      | 0.01065 |
| rs11622397  | 14         | 90410446   | A      | 0.00849 |
| rs7143288   | 14         | 91407630   | T      | 0.00782 |
| rs11160057  | 14         | 91866998   | A      | 0.01085 |
| rs11628803  | 14         | 92140517   | A      | 0.00118 |
| rs2146498   | 14         | 92142022   | C      | 0.01520 |
| rs4904964   | 14         | 92169620   | T      | 0.01387 |
| rs17748637  | 14         | 92416199   | C      | 0.01117 |
| rs17128706  | 14         | 92508104   | A      | 0.00376 |
| rs12586978  | 14         | 93111973   | C      | 0.00582 |
| rs8012955   | 14         | 93450660   | G      | 0.00679 |
| rs11160168  | 14         | 93846154   | T      | 0.01009 |
| rs1950654   | 14         | 93875164   | G      | 0.00209 |
| rs1016686   | 14         | 93908993   | A      | 0.00804 |
| rs1243167   | 14         | 93911394   | A      | 0.01424 |
| rs2753934   | 14         | 93921083   | G      | 0.00289 |
| rs8008729   | 14         | 94019874   | C      | 0.00686 |
| rs12589932  | 14         | 94020846   | C      | 0.00850 |
| rs4900233   | 14         | 94026811   | T      | 0.01314 |
| rs8012043   | 14         | 94033174   | T      | 0.01089 |
| rs10149025  | 14         | 94130789   | G      | 0.00731 |
| rs10136944  | 14         | 94930040   | T      | 0.01030 |
| rs878599    | 14         | 95016128   | T      | 0.00931 |
| rs10131473  | 14         | 95075769   | G      | 0.00844 |
| SNP   | Chromosome | Chromosome Position | Minor Allele | P-Value |
|-------|------------|---------------------|--------------|---------|
| rs2296311 | 14        | 95247926            | C            | 0.00031 |
| rs1984968 | 14        | 95251335            | T            | 0.01427 |
| rs10498645 | 14      | 95332505            | G            | 0.00100 |
| rs17093610 | 14       | 95516403            | G            | 0.00651 |
| rs11628024 | 14       | 95518120            | A            | 0.00341 |
| rs2369415  | 14        | 95526439            | G            | 0.01591 |
| rs10149056 | 14       | 95560098            | C            | 0.00425 |
| rs4905449  | 14        | 95686083            | A            | 0.00308 |
| rs2069600  | 14        | 95782782            | T            | 0.00944 |
| rs17093610 | 14       | 95800000            | C            | 0.00425 |
| rs11847642 | 14       | 96222951            | T            | 0.00642 |
| rs17094378 | 14       | 96260492            | T            | 0.00134 |
| rs17094877 | 14       | 96516403            | G            | 0.00308 |
| rs234184   | 14        | 97201697            | C            | 0.00205 |
| rs7154456  | 14        | 97257396            | T            | 0.00820 |
| rs1840790  | 14        | 97426285            | T            | 0.01469 |
| rs17096516 | 14       | 97689215            | T            | 0.01344 |
| rs17096556 | 14       | 97697068            | C            | 0.01197 |
| rs17096732 | 14       | 97738977            | A            | 0.01417 |
| rs4900391  | 14        | 9775389             | T            | 0.00301 |
| rs11846788 | 14       | 97815629            | A            | 0.01004 |
| rs8022910  | 14        | 97833989            | G            | 0.01401 |
| rs7142106  | 14        | 97834528            | C            | 0.01601 |
| rs8003296  | 14        | 98039917            | G            | 0.00389 |
| rs17097056 | 14       | 98040463            | G            | 0.01377 |
| rs8022320  | 14        | 98057225            | G            | 0.00026 |
| rs7152687  | 14        | 98283632            | T            | 0.01562 |
| rs10136851 | 14       | 98338138            | T            | 0.00540 |
| rs1257669  | 14        | 98561945            | G            | 0.01218 |
| rs8019310  | 14        | 98576180            | T            | 0.00377 |
| rs10136896 | 14       | 98672685            | A            | 0.00696 |
| rs7151749  | 14        | 99615311            | T            | 0.00000 |
| rs2766696  | 14        | 99731073            | T            | 0.00652 |
| rs7159412  | 14        | 100345436           | C            | 0.00720 |
| rs7146650  | 14        | 100369680           | G            | 0.00864 |
| rs1160631  | 14        | 100699224           | T            | 0.01648 |
| rs7147563  | 14        | 101107380           | C            | 0.01540 |
| rs1904298  | 14        | 101426228           | A            | 0.00755 |
| rs911627   | 14        | 102481588           | C            | 0.00736 |
| rs2403107  | 14        | 102482021           | A            | 0.01178 |
| rs8019504  | 14        | 102862008           | A            | 0.00987 |
| rs17101871 | 14       | 103376191           | C            | 0.00244 |
| rs1770998  | 14        | 103610922           | A            | 0.00893 |
| rs2816662  | 14        | 104667099           | G            | 0.01530 |
| SNP            | Chrom | Position   | Allele | p-value |
|----------------|-------|------------|--------|---------|
| rs8042584      | 15    | 21674230   | C      | 0.00812 |
| rs1459963      | 15    | 21779413   | C      | 0.01568 |
| rs996956       | 15    | 21780108   | G      | 0.00708 |
| rs17829754     | 15    | 21982100   | T      | 0.01554 |
| rs6576424      | 15    | 23248632   | C      | 0.01645 |
| rs2925239      | 15    | 23332768   | G      | 0.00620 |
| rs2925253      | 15    | 23427097   | A      | 0.01290 |
| rs4906777      | 15    | 23600150   | G      | 0.01003 |
| rs17642892     | 15    | 23604395   | A      | 0.00055 |
| rs8041836      | 15    | 23605988   | G      | 0.00008 |
| rs1849155      | 15    | 23708904   | T      | 0.00438 |
| rs7171565      | 15    | 23768183   | G      | 0.00653 |
| rs3915026      | 15    | 23847489   | A      | 0.01316 |
| rs4261503      | 15    | 24091541   | C      | 0.01001 |
| rs4567674      | 15    | 24462768   | A      | 0.00602 |
| rs8032341      | 15    | 24625888   | G      | 0.00349 |
| rs7402786      | 15    | 24632666   | A      | 0.01322 |
| rs2116526      | 15    | 24815274   | A      | 0.01411 |
| rs12439106     | 15    | 24875499   | A      | 0.00235 |
| rs16950123     | 15    | 25431355   | C      | 0.00678 |
| rs3097459      | 15    | 25510397   | A      | 0.01229 |
| rs4778185      | 15    | 25738936   | T      | 0.01463 |
| rs12592307     | 15    | 25763768   | T      | 0.01137 |
| rs768547       | 15    | 25774538   | A      | 0.00665 |
| rs9989302      | 15    | 26064496   | C      | 0.00274 |
| rs12324794     | 15    | 27025631   | A      | 0.01295 |
| rs1025989      | 15    | 27391874   | C      | 0.00097 |
| rs1373891      | 15    | 27395970   | T      | 0.00629 |
| rs16955485     | 15    | 27547808   | T      | 0.01480 |
| rs10851966     | 15    | 27556480   | C      | 0.00666 |
| rs11073050     | 15    | 27562437   | C      | 0.00044 |
| rs16956564     | 15    | 29208621   | G      | 0.00842 |
| rs783032       | 15    | 29251419   | C      | 0.01301 |
| rs17228227     | 15    | 29324938   | C      | 0.00669 |
| rs17815905     | 15    | 29332325   | T      | 0.00652 |
| rs4354896      | 15    | 29494067   | C      | 0.01006 |
| rs2125617      | 15    | 29548278   | C      | 0.01505 |
| rs4779532      | 15    | 29559726   | G      | 0.00529 |
| rs905434       | 15    | 29883581   | A      | 0.01162 |
| rs905438       | 15    | 29884283   | C      | 0.01360 |
| rs7171443      | 15    | 29891656   | A      | 0.00317 |
| rs7182228      | 15    | 29893943   | C      | 0.01545 |
| rs2879291      | 15    | 29912376   | G      | 0.01425 |
| rs17604644     | 15    | 29918313   | G      | 0.01075 |
| SNP         | Chromosome | Position (bp) | Allele | MAF |
|-------------|------------|---------------|--------|-----|
| rs1258735   | 15         | 30855275      | T      | 0.00399 |
| rs1258736   | 15         | 30855315      | C      | 0.01225 |
| rs347942    | 15         | 30964590      | A      | 0.01290 |
| rs11852910  | 15         | 31306881      | A      | 0.00522 |
| rs11633122  | 15         | 31375943      | A      | 0.01292 |
| rs2572167   | 15         | 31569534      | C      | 0.00871 |
| rs2572204   | 15         | 31583002      | T      | 0.00562 |
| rs11638664  | 15         | 31706944      | T      | 0.01232 |
| rs16957135  | 15         | 31724171      | T      | 0.00134 |
| rs12101933  | 15         | 31732691      | C      | 0.00793 |
| rs16960287  | 15         | 31756592      | A      | 0.01433 |
| rs16960726  | 15         | 31893329      | C      | 0.01038 |
| rs504714    | 15         | 32052393      | T      | 0.00952 |
| rs1436914   | 15         | 32728335      | A      | 0.01104 |
| rs11632450  | 15         | 32793952      | G      | 0.00497 |
| rs2196562   | 15         | 32841217      | A      | 0.01207 |
| rs1521849   | 15         | 32849069      | T      | 0.01433 |
| rs11855784  | 15         | 32959677      | T      | 0.01230 |
| rs16960581  | 15         | 33252088      | A      | 0.01498 |
| rs167615    | 15         | 33310670      | G      | 0.01014 |
| rs16960726  | 15         | 33337838      | T      | 0.00189 |
| rs17586323  | 15         | 33550949      | T      | 0.01439 |
| rs958384    | 15         | 33554579      | G      | 0.01547 |
| rs16961136  | 15         | 33590674      | G      | 0.00468 |
| rs8024137   | 15         | 33624589      | A      | 0.00249 |
| rs2647668   | 15         | 33788678      | A      | 0.00503 |
| rs2339987   | 15         | 34080142      | C      | 0.01616 |
| rs4924065   | 15         | 34490368      | A      | 0.01609 |
| rs7173993   | 15         | 34539883      | A      | 0.00671 |
| rs4924116   | 15         | 35086443      | T      | 0.01057 |
| rs1533673   | 15         | 35282522      | C      | 0.00267 |
| rs1568449   | 15         | 35418881      | T      | 0.00485 |
| rs7174609   | 15         | 35686045      | C      | 0.00044 |
| rs10852007  | 15         | 35900682      | T      | 0.00091 |
| rs4924266   | 15         | 36502454      | G      | 0.00606 |
| rs12324139  | 15         | 36654501      | T      | 0.01085 |
| rs12324161  | 15         | 36654582      | A      | 0.01073 |
| rs4923807   | 15         | 36980534      | C      | 0.01236 |
| rs4462564   | 15         | 37507072      | T      | 0.00510 |
| rs2664128   | 15         | 37781025      | C      | 0.00935 |
| rs4924393   | 15         | 37913935      | C      | 0.00290 |
| rs8028660   | 15         | 38943412      | A      | 0.00681 |
| rs7173954   | 15         | 39062306      | A      | 0.00943 |
| rs7166182   | 15         | 39301991      | A      | 0.01001 |
| rs16971832  | 15         | 39551211      | C      | 0.00041 |
| rsID     | Chromosome | Position | Allele | P-value |
|----------|------------|----------|--------|---------|
| rs11858969 | 15         | 39607260 | A      | 0.00587 |
| rs9944249  | 15         | 39634468 | A      | 0.01017 |
| rs4923918  | 15         | 39948235 | T      | 0.01479 |
| rs4924678  | 15         | 40548728 | A      | 0.00679 |
| rs9920935  | 15         | 40862494 | C      | 0.01250 |
| rs11635852 | 15         | 41717056 | G      | 0.00831 |
| rs2277610  | 15         | 42650222 | T      | 0.00537 |
| rs6493111  | 15         | 42803897 | A      | 0.00071 |
| rs3100141  | 15         | 42843424 | G      | 0.01576 |
| rs11635852 | 15         | 43337949 | A      | 0.01176 |
| rs11635852 | 15         | 43339048 | G      | 0.00434 |
| rs11635852 | 15         | 43344121 | A      | 0.01489 |
| rs11635852 | 15         | 43346560 | A      | 0.00126 |
| rs11635852 | 15         | 43388704 | G      | 0.00011 |
| rs2453518  | 15         | 43516029 | G      | 0.00882 |
| rs16949297 | 15         | 44023436 | G      | 0.00369 |
| rs6493188  | 15         | 44030019 | T      | 0.00989 |
| rs1601206  | 15         | 44513767 | T      | 0.00917 |
| rs8042193  | 15         | 44965986 | A      | 0.00347 |
| rs11070567 | 15         | 45204194 | T      | 0.01402 |
| rs1390870  | 15         | 45541604 | T      | 0.00276 |
| rs12908208 | 15         | 45584167 | T      | 0.00260 |
| rs2136897  | 15         | 45708806 | G      | 0.00503 |
| rs1025759  | 15         | 45855742 | C      | 0.00735 |
| rs11070617 | 15         | 45932546 | A      | 0.00866 |
| rs12898572 | 15         | 46648809 | C      | 0.00975 |
| rs4381535  | 15         | 46999340 | G      | 0.00569 |
| rs4303430  | 15         | 47007244 | A      | 0.00758 |
| rs1911614  | 15         | 47650898 | T      | 0.01132 |
| rs2414003  | 15         | 48105489 | A      | 0.00502 |
| rs8029889  | 15         | 48338192 | G      | 0.00042 |
| rs17431564 | 15         | 48497408 | T      | 0.01522 |
| rs11070790 | 15         | 48626310 | A      | 0.00432 |
| rs11632323 | 15         | 49215489 | T      | 0.00424 |
| rs16964764 | 15         | 50284225 | A      | 0.01548 |
| rs17614119 | 15         | 50500938 | A      | 0.00595 |
| rs8034728  | 15         | 50652177 | A      | 0.01283 |
| rs690013   | 15         | 51279653 | C      | 0.01117 |
| rs1949098  | 15         | 51291057 | G      | 0.00894 |
| rs17711751 | 15         | 51395895 | A      | 0.00373 |
| rs11632462 | 15         | 51481077 | A      | 0.01238 |
| rs11853116 | 15         | 51492626 | A      | 0.00424 |
| rs640063   | 15         | 51518440 | T      | 0.00209 |
| SNP       | Chromosome | Position (bp) | Allele | P-value |
|-----------|------------|---------------|--------|---------|
| rs10220852| 15         | 51627071      | C      | 0.00284 |
| rs16966302| 15         | 51690626      | T      | 0.00615 |
| rs533362  | 15         | 51901639      | A      | 0.00612 |
| rs2725627 | 15         | 51979784      | C      | 0.01093 |
| rs2616910 | 15         | 52063875      | T      | 0.00200 |
| rs8023723 | 15         | 52310314      | C      | 0.01029 |
| rs12439702| 15         | 52320735      | G      | 0.01000 |
| rs12917023| 15         | 52327637      | G      | 0.00298 |
| rs16966302| 15         | 52589815      | C      | 0.01029 |
| rs12900986| 15         | 52327637      | G      | 0.01081 |
| rs6493735 | 15         | 53049743      | G      | 0.01618 |
| rs1690358 | 15         | 53090579      | C      | 0.01081 |
| rs8037056 | 15         | 53424801      | C      | 0.01630 |
| rs7179377 | 15         | 53844316      | T      | 0.00969 |
| rs12900986| 15         | 55046028      | C      | 0.00242 |
| rs967514  | 15         | 55201068      | G      | 0.00417 |
| rs745998  | 15         | 55660593      | A      | 0.00382 |
| rs2899611 | 15         | 56114639      | A      | 0.01470 |
| rs12899929| 15         | 56230722      | G      | 0.00268 |
| rs12916831| 15         | 57261382      | A      | 0.00238 |
| rs9920861 | 15         | 58460982      | C      | 0.00942 |
| rs9920823 | 15         | 58461141      | T      | 9.12400 |
| rs11071551| 15         | 58805789      | G      | 0.01612 |
| rs16943012| 15         | 58806100      | C      | 0.01660 |
| rs4774376 | 15         | 58975973      | G      | 0.00982 |
| rs2899664 | 15         | 58998042      | A      | 0.00291 |
| rs4378570 | 15         | 58994347      | T      | 0.00655 |
| rs8028646 | 15         | 58998481      | A      | 0.01408 |
| rs11638929| 15         | 59080991      | T      | 0.00519 |
| rs4775384 | 15         | 59403632      | A      | 0.01586 |
| rs11630398| 15         | 59480010      | G      | 0.01270 |
| rs4619338 | 15         | 59553394      | G      | 0.01427 |
| rs12902473| 15         | 60226723      | A      | 0.01416 |
| rs1518173 | 15         | 60483171      | T      | 0.01454 |
| rs12911081| 15         | 60503933      | G      | 0.00328 |
| rs16945148| 15         | 60574452      | C      | 0.00527 |
| rs16945167| 15         | 60578048      | T      | 0.00019 |
| rs885188  | 15         | 60581199      | G      | 0.00307 |
| rs16945344| 15         | 60671425      | C      | 0.00939 |
| rs1050255 | 15         | 61150684      | G      | 0.01354 |
| rs1499605 | 15         | 61493278      | A      | 0.00838 |
| rs12917403| 15         | 61544333      | T      | 0.00909 |
| rs8025240 | 15         | 61615616      | T      | 0.00881 |
| rs4074448 | 15         | 61675548      | C      | 0.01631 |
| rs        | chr | pos       | allele | p       |
|-----------|-----|-----------|--------|---------|
| rs477966  | 15  | 62570778  | G      | 0.00279 |
| rs6494518 | 15  | 63453712  | C      | 0.00422 |
| rs12595096| 15  | 64898350  | C      | 0.00608 |
| rs17274866| 15  | 65015413  | A      | 0.01535 |
| rs12441344| 15  | 65234949  | G      | 0.00683 |
| rs12595334| 15  | 65272210  | T      | 0.00672 |
| rs8042007 | 15  | 65440030  | C      | 0.00687 |
| rs4776991 | 15  | 65927216  | T      | 0.00279 |
| rs2280218 | 15  | 66354066  | G      | 0.00212 |
| rs3784334 | 15  | 66397438  | C      | 8.81400 |
| rs7179598 | 15  | 66409618  | A      | 0.00325 |
| rs11072031| 15  | 66545560  | C      | 0.00720 |
| rs7169200 | 15  | 66736955  | C      | 0.01440 |
| rs12438916| 15  | 67263598  | T      | 0.01493 |
| rs4777125 | 15  | 67288438  | G      | 0.00505 |
| rs4777180 | 15  | 67773628  | G      | 0.01546 |
| rs10220831| 15  | 67779168  | G      | 0.00940 |
| rs453151  | 15  | 67884729  | G      | 18.21900 |
| rs7169441 | 15  | 68049834  | A      | 0.00847 |
| rs869607  | 15  | 68104426  | T      | 0.00772 |
| rs11630941| 15  | 68329262  | C      | 0.00121 |
| rs16955491| 15  | 69437166  | G      | 0.00919 |
| rs7167951 | 15  | 69466017  | A      | 4.39400 |
| rs991051  | 15  | 69537817  | C      | 0.00036 |
| rs12912393| 15  | 69540196  | C      | 0.00425 |
| rs3924603 | 15  | 69564029  | A      | 0.01480 |
| rs8037079 | 15  | 69630924  | T      | 0.00360 |
| rs13379966| 15  | 69689588  | C      | 0.01477 |
| rs7169459 | 15  | 69746050  | T      | 0.00350 |
| rs1604335 | 15  | 69791262  | T      | 0.01279 |
| rs17737569| 15  | 69804834  | C      | 0.00715 |
| rs12909288| 15  | 69835470  | G      | 0.00427 |
| rs16956602| 15  | 70235165  | T      | 0.00865 |
| rs3803388 | 15  | 70332911  | T      | 0.00197 |
| rs16956956| 15  | 70530512  | C      | 0.00277 |
| rs2278543 | 15  | 70864255  | G      | 0.00476 |
| rs4514651 | 15  | 70909026  | T      | 0.00306 |
| rs1038094 | 15  | 71799490  | A      | 0.01568 |
| rs893818  | 15  | 72016248  | T      | 0.00429 |
| rs971756  | 15  | 72275022  | A      | 0.00826 |
| rs351214  | 15  | 72363319  | A      | 0.00207 |
| rs7176022 | 15  | 72894933  | G      | 0.01307 |
| rs11072528| 15  | 73223508  | G      | 0.00924 |
| rs8026113 | 15  | 73723753  | G      | 0.00947 |
| rs11634290 | 15 | 73771150 | T | 0.00716 |
| rs12903227 | 15 | 75110084 | A | 0.00984 |
| rs17467967 | 15 | 75281409 | A | 0.01012 |
| rs3803380  | 15 | 76157798 | G | 0.01354 |
| rs16969482 | 15 | 76164665 | T | 0.01540 |
| rs869858   | 15 | 76280099 | T | 0.00251 |
| rs16970187 | 15 | 76964615 | T | 0.01540 |
| rs16970187 | 15 | 76964665 | A | 0.00277 |
| rs1110729  | 15 | 77790012 | A | 0.00240 |
| rs16971368 | 15 | 77891230 | A | 0.00214 |
| rs7171473  | 15 | 78182928 | T | 0.01458 |
| rs7172425  | 15 | 78689321 | G | 0.00897 |
| rs11633017 | 15 | 78880032 | G | 0.01460 |
| rs748696   | 15 | 78880943 | C | 0.01580 |
| rs1507661  | 15 | 78996352 | T | 0.01614 |
| rs7162859  | 15 | 79147093 | T | 0.01290 |
| rs8031649  | 15 | 79889541 | C | 0.00145 |
| rs12916134 | 15 | 79981140 | C | 0.01247 |
| rs16973216 | 15 | 80004173 | C | 0.01279 |
| rs17350827 | 15 | 80037058 | C | 0.01483 |
| rs12324805 | 15 | 80139255 | C | 0.01210 |
| rs896368   | 15 | 83294136 | T | 0.00849 |
| rs896370   | 15 | 83294367 | G | 0.01537 |
| rs8039875  | 15 | 83499650 | T | 0.00146 |
| rs6496932  | 15 | 83626571 | T | 0.00843 |
| rs7168345  | 15 | 83814605 | A | 0.00388 |
| rs12913754 | 15 | 83824542 | G | 0.00128 |
| rs11637726 | 15 | 83860275 | C | 0.00649 |
| rs4842888  | 15 | 83864137 | C | 0.00089 |
| rs3743321  | 15 | 83865972 | G | 0.00976 |
| rs6496055  | 15 | 83871692 | G | 0.00274 |
| rs17574774 | 15 | 84034374 | C | 0.00742 |
| rs4842907  | 15 | 84239094 | A | 0.00989 |
| rs4262906  | 15 | 84263856 | A | 0.00471 |
| rs17650190 | 15 | 84363182 | T | 0.00716 |
| rs4887511  | 15 | 84393542 | G | 0.00244 |
| rs11630546 | 15 | 84415671 | T | 0.01394 |
| rs1835629  | 15 | 84756735 | C | 0.00405 |
| rs7174126  | 15 | 84815653 | G | 0.00213 |
| rs9920671  | 15 | 84815973 | C | 0.01649 |
| rs12591257 | 15 | 84865093 | C | 0.00931 |
| rs896614   | 15 | 85108849 | T | 0.00829 |
| rs4887516  | 15 | 85233492 | G | 0.00704 |
| rs1473258  | 15 | 85397349 | G | 0.00275 |
| SNP            | Chromosome | Position | Allele | P-value |
|----------------|------------|----------|--------|---------|
| rs17738824     | 15         | 85643188 | G      | 0.00493 |
| rs17716031     | 15         | 85842923 | T      | 0.01510 |
| rs11857638     | 15         | 86016574 | C      | 0.01588 |
| rs1560977      | 15         | 86204840 | C      | 0.00563 |
| rs3803409      | 15         | 86205395 | C      | 0.00175 |
| rs7170215      | 15         | 86299145 | A      | 0.00289 |
| rs10520673     | 15         | 86418725 | A      | 0.01634 |
| rs16941252     | 15         | 86439010 | G      | 0.00784 |
| rs11857638     | 15         | 86561320 | C      | 0.01583 |
| rs1560977      | 15         | 86620480 | C      | 0.00563 |
| rs3803409      | 15         | 86620539 | C      | 0.00175 |
| rs7170215      | 15         | 86629914 | A      | 0.00289 |
| rs10520673     | 15         | 86805495 | G      | 0.01618 |
| rs16941976     | 15         | 86829106 | G      | 0.00267 |
| rs7163448      | 15         | 86836540 | G      | 0.01327 |
| rs7182912      | 15         | 86839816 | A      | 0.00665 |
| rs11637762     | 15         | 86947538 | C      | 0.01171 |
| rs11073865     | 15         | 86970545 | A      | 0.01117 |
| rs11073866     | 15         | 86970819 | C      | 0.00783 |
| rs4932227      | 15         | 87865597 | C      | 0.00682 |
| rs8039002      | 15         | 87943291 | G      | 0.00475 |
| rs894157       | 15         | 87969112 | A      | 0.01650 |
| rs753362       | 15         | 88141538 | G      | 0.00161 |
| rs11635236     | 15         | 88651766 | A      | 0.01261 |
| rs8026218      | 15         | 88946269 | C      | 0.01274 |
| rs4932182      | 15         | 89309807 | A      | 0.00451 |
| rs16945332     | 15         | 89543178 | G      | 0.01441 |
| rs8026662      | 15         | 89584811 | T      | 0.01432 |
| rs8028098      | 15         | 89918244 | G      | 0.01039 |
| rs12148290     | 15         | 89962969 | G      | 0.01381 |
| rs6496866      | 15         | 90247268 | T      | 0.00146 |
| rs7175217      | 15         | 90478521 | T      | 0.00523 |
| rs12440538     | 15         | 90571510 | C      | 0.00269 |
| rs11632145     | 15         | 90573772 | A      | 0.00933 |
| rs16946658     | 15         | 90616516 | A      | 0.00264 |
| rs16947479     | 15         | 91476326 | T      | 0.00604 |
| rs12911343     | 15         | 91592091 | T      | 0.00139 |
| rs7180119      | 15         | 91994204 | C      | 0.01402 |
| rs8041276      | 15         | 92422259 | C      | 0.01180 |
| rs16949124     | 15         | 92776053 | A      | 0.00120 |
| rs1863095      | 15         | 92917093 | A      | 0.00596 |
| rs12442336     | 15         | 93134763 | A      | 0.00359 |
| rs17637117     | 15         | 93705068 | T      | 0.01474 |
| rs96772727     | 15         | 93770078 | A      | 0.01494 |
| rs4581667      | 15         | 93938912 | G      | 0.01262 |
| rs11856995     | 15         | 94126647 | C      | 0.01324 |
| rs16975873     | 15         | 94311063 | A      | 0.00488 |
| SNP       | Chromosome | Position  | Allele | p-value |
|-----------|------------|-----------|--------|---------|
| rs1450484 | 15         | 94386371  | T      | 0.01148 |
| rs11629694| 15         | 94409141  | T      | 0.01288 |
| rs1964412 | 15         | 94583487  | A      | 0.01325 |
| rs11856264| 15         | 94589026  | T      | 0.01649 |
| rs2398162 | 15         | 94631554  | C      | 0.00432 |
| rs10162920| 15         | 94772921  | A      | 0.01363 |
| rs1238146 | 15         | 94832146  | G      | 0.00432 |
| rs8037286 | 15         | 94837156  | G      | 0.00697 |
| rs1291081 | 15         | 94970584  | C      | 0.00646 |
| rs96472   | 15         | 96323042  | T      | 0.00553 |
| rs899672  | 15         | 96445206  | C      | 0.00880 |
| rs10152110| 15         | 96491372  | T      | 0.00480 |
| rs11634680| 15         | 96494081  | A      | 0.00024 |
| rs3863402 | 15         | 96638256  | C      | 0.01132 |
| rs4965332 | 15         | 96650361  | T      | 0.01539 |
| rs1291057 | 15         | 96743014  | A      | 0.00918 |
| rs2654974 | 15         | 97365957  | G      | 0.00410 |
| rs11855362| 15         | 97764026  | C      | 0.00028 |
| rs4424892 | 15         | 97921908  | G      | 0.00264 |
| rs325406  | 15         | 98065263  | G      | 0.01073 |
| rs7165478 | 15         | 98095507  | T      | 0.01454 |
| rs4965327 | 15         | 99016197  | C      | 0.00211 |
| rs4965381 | 15         | 99749985  | A      | 0.00869 |
| rs4965897 | 15         | 99903123  | T      | 0.01034 |
| rs516667  | 15         | 100021554 | C      | 0.00530 |
| rs11637017| 15         | 100210760 | C      | 0.01296 |
| rs6600227 | 16         | 55072     | C      | 0.00333 |
| rs11248914| 16         | 233563    | G      | 0.00210 |
| rs1465761 | 16         | 932301    | T      | 0.01382 |
| rs12595929| 16         | 947764    | T      | 0.01068 |
| rs7187167 | 16         | 1289210   | C      | 0.00927 |
| rs1742431 | 16         | 1845875   | T      | 0.00668 |
| rs4785913 | 16         | 2860765   | T      | 0.01403 |
| rs2717695 | 16         | 3090897   | G      | 0.01184 |
| rs8058624 | 16         | 4162240   | T      | 0.00149 |
| rs3848370 | 16         | 4300315   | C      | 0.00073 |
| rs11646063| 16         | 4379210   | G      | 0.00018 |
| rs4786509 | 16         | 4508770   | G      | 0.00430 |
| rs11076837| 16         | 4509441   | C      | 0.00907 |
| rs9393503 | 16         | 4636655   | G      | 0.01302 |
| rs3760030 | 16         | 5059873   | A      | 0.00148 |
| rs11076893| 16         | 5195875   | G      | 0.00758 |
| rs938756  | 16         | 5343815   | T      | 0.00125 |
| rs4786690 | 16         | 5469808   | A      | 0.00415 |
| SNP      | Chromosome | Position | Allele | p-value |
|----------|------------|----------|--------|---------|
| rs7205245| 16         | 5670141  | G      | 0.01534 |
| rs10500328| 16        | 5747879  | A      | 0.01649 |
| rs9926798| 16         | 5775884  | C      | 0.00245 |
| rs8059231| 16         | 5790794  | A      | 0.00416 |
| rs9302816| 16         | 6086024  | C      | 0.00589 |
| rs7195534| 16         | 6294920  | T      | 0.00683 |
| rs12149730| 16       | 6302495  | T      | 0.00946 |
| rs7190440| 16         | 6340689  | A      | 0.00726 |
| rs7157108| 16         | 6348155  | T      | 0.00541 |
| rs809693 | 16         | 6429160  | G      | 0.00928 |
| rs9923390| 16         | 6594901  | G      | 0.00065 |
| rs6500824| 16         | 6760961  | T      | 0.00853 |
| rs7200754| 16         | 6837637  | A      | 0.00133 |
| rs8054227| 16         | 7052858  | C      | 0.01561 |
| rs17670098| 16        | 7149248  | A      | 0.00608 |
| rs9929583| 16         | 7180745  | G      | 0.00681 |
| rs7201982| 16         | 7183757  | T      | 0.01000 |
| rs17143076| 16       | 7247253  | A      | 0.00194 |
| rs7195044| 16         | 7277941  | C      | 0.01302 |
| rs17143492| 16        | 7356171  | A      | 0.00393 |
| rs7202208| 16         | 7375166  | C      | 0.00781 |
| rs6500963| 16         | 7407490  | C      | 0.00382 |
| rs7186099| 16         | 7501334  | G      | 0.01365 |
| rs12596133| 16       | 7531196  | C      | 0.00701 |
| rs1507027| 16         | 7531546  | C      | 0.01592 |
| rs6500981| 16         | 7533576  | A      | 0.00809 |
| rs7197594| 16         | 7559278  | A      | 0.01020 |
| rs11641648| 16       | 7562377  | C      | 0.01325 |
| rs7190440| 16         | 7565512  | C      | 0.01628 |
| rs11648790| 16       | 7567099  | G      | 17.75400 |
| rs7196984| 16         | 7737129  | C      | 0.00228 |
| rs17145374| 16       | 8178962  | C      | 0.00074 |
| rs2360853| 16         | 8284785  | G      | 0.00491 |
| rs17145695| 16       | 8296327  | T      | 0.01352 |
| rs8044475| 16         | 8351688  | G      | 0.00700 |
| rs4074769| 16         | 8538548  | G      | 0.01594 |
| rs9925238| 16         | 8544856  | G      | 2.36400 |
| rs1731062| 16         | 8710253  | A      | 0.00896 |
| rs1075853| 16         | 8782280  | G      | 0.00315 |
| rs1347580| 16         | 8907049  | T      | 0.00338 |
| rs12446999| 16       | 8957832  | C      | 0.00024 |
| rs1114620| 16         | 9171238  | G      | 0.00800 |
| SNP        | Chromosome | Position     | Allele 1 | Allele 2 | p-value  |
|------------|------------|--------------|----------|----------|----------|
| rs2965859  | 16         | 9209582      | T        |          | 0.00009  |
| rs1428795  | 16         | 9444348      | C        |          | 0.00256  |
| rs8054870  | 16         | 9534859      | G        |          | 0.01499  |
| rs7189658  | 16         | 9538224      | G        |          | 0.00849  |
| rs12597733 | 16         | 9548886      | T        |          | 0.00282  |
| rs9932623  | 16         | 9552891      | C        |          | 0.00814  |
| rs9932870  | 16         | 9553178      | C        |          | 0.00964  |
| rs12917871 | 16         | 9714028      | G        |          | 0.01266  |
| rs8062216  | 16         | 9715998      | C        |          | 0.01593  |
| rs6497420  | 16         | 9716455      | T        |          | 0.01519  |
| rs6497421  | 16         | 9716477      | G        |          | 0.00851  |
| rs1833167  | 16         | 9729142      | T        |          | 0.00928  |
| rs17749793 | 16         | 9740694      | T        |          | 0.00810  |
| rs8045712  | 16         | 9758623      | G        |          | 0.00337  |
| rs11866385 | 16         | 10016159     | C        |          | 0.00583  |
| rs837696   | 16         | 10019403     | G        |          | 0.01307  |
| rs11074547 | 16         | 10044390     | T        |          | 0.00053  |
| rs6497732  | 16         | 10153982     | T        |          | 0.01574  |
| rs1071504  | 16         | 10187517     | C        |          | 0.00037  |
| rs13335305 | 16         | 10263717     | C        |          | 0.01086  |
| rs11074939 | 16         | 10919210     | G        |          | 0.00053  |
| rs12598008 | 16         | 10947194     | G        |          | 0.01370  |
| rs8055544  | 16         | 10999062     | A        |          | 0.01189  |
| rs7205925  | 16         | 11369979     | T        |          | 0.00316  |
| rs9934326  | 16         | 11658331     | A        |          | 0.00293  |
| rs3829527  | 16         | 12615904     | C        |          | 0.00839  |
| rs1651006  | 16         | 12682064     | C        |          | 0.01327  |
| rs2865628  | 16         | 12761989     | G        |          | 0.00674  |
| rs377027   | 16         | 13217669     | G        |          | 0.00465  |
| rs2903251  | 16         | 13252951     | A        |          | 0.00625  |
| rs9989415  | 16         | 13428953     | A        |          | 0.00147  |
| rs7199289  | 16         | 13432639     | T        |          | 0.01380  |
| rs16962155 | 16         | 13495836     | T        |          | 0.00434  |
| rs16962265 | 16         | 13545495     | G        |          | 0.00519  |
| rs12149863 | 16         | 13642296     | T        |          | 0.00462  |
| rs11642741 | 16         | 13796291     | T        |          | 0.01007  |
| rs7197456  | 16         | 13845373     | C        |          | 0.00337  |
| rs4781565  | 16         | 14047838     | C        |          | 0.00364  |
| rs6498514  | 16         | 14395803     | G        |          | 0.01202  |
| rs2133774  | 16         | 15940440     | G        |          | 0.00440  |
| rs7193763  | 16         | 17133036     | C        |          | 0.00867  |
| rs4426337  | 16         | 17625019     | C        |          | 0.01279  |
| rs8052722  | 16         | 17698192     | G        |          | 0.01558  |
| rs4780657  | 16         | 18065113     | T        |          | 0.00238  |
| SNP    | Chromosome | Position | Allele | p-value |
|--------|------------|----------|--------|---------|
| rs7197580 | 16 | 19186126 | A | 0.00322 |
| rs8052275 | 16 | 19237604 | A | 0.00055 |
| rs8051268 | 16 | 19237689 | C | 0.01638 |
| rs2027818 | 16 | 19239195 | G | 0.01377 |
| rs2027819 | 16 | 19239238 | A | 0.00517 |
| rs9921076 | 16 | 19379201 | A | 0.01426 |
| rs8063463 | 16 | 19403812 | C | 0.00674 |
| rs8051268 | 16 | 19237689 | C | 0.01638 |
| rs2027819 | 16 | 19239238 | A | 0.00517 |
| rs9921076 | 16 | 19379201 | A | 0.01426 |
| rs8063463 | 16 | 19403812 | C | 0.00674 |
| rs8052275 | 16 | 19237604 | A | 0.00055 |
| rs2027818 | 16 | 19239195 | G | 0.01377 |
| rs2027819 | 16 | 19239238 | A | 0.00517 |
| rs9921076 | 16 | 19379201 | A | 0.01426 |
| rs8063463 | 16 | 19403812 | C | 0.00674 |
| rs8051268 | 16 | 19237689 | C | 0.01638 |
| rs2027819 | 16 | 19239238 | A | 0.00517 |
| rs9921076 | 16 | 19379201 | A | 0.01426 |
| rs8063463 | 16 | 19403812 | C | 0.00674 |
| rs8051268 | 16 | 19237689 | C | 0.01638 |
| rs2027819 | 16 | 19239238 | A | 0.00517 |
| rs9921076 | 16 | 19379201 | A | 0.01426 |
| rs8063463 | 16 | 19403812 | C | 0.00674 |
| rs8051268 | 16 | 19237689 | C | 0.01638 |
| rs2027819 | 16 | 19239238 | A | 0.00517 |
| rs9921076 | 16 | 19379201 | A | 0.01426 |
| rs8063463 | 16 | 19403812 | C | 0.00674 |
| rs8051268 | 16 | 19237689 | C | 0.01638 |
| rs2027819 | 16 | 19239238 | A | 0.00517 |
| rs9921076 | 16 | 19379201 | A | 0.01426 |
| rs8063463 | 16 | 19403812 | C | 0.00674 |
| rs8051268 | 16 | 19237689 | C | 0.01638 |
| rs2027819 | 16 | 19239238 | A | 0.00517 |
| rs9921076 | 16 | 19379201 | A | 0.01426 |
| rs8063463 | 16 | 19403812 | C | 0.00674 |
| SNP          | Chromosome | Position   | Allele | p-value |
|--------------|------------|------------|--------|---------|
| rs17638800   | 16         | 27089322   | A      | 0.01643 |
| rs8045153    | 16         | 27089979   | G      | 0.01537 |
| rs4787413    | 16         | 27110532   | A      | 0.00288 |
| rs252299     | 16         | 29140178   | G      | 0.00005 |
| rs8055861    | 16         | 31307402   | G      | 0.01428 |
| rs11150645   | 16         | 31786220   | G      | 0.01537 |
| rs2623779    | 16         | 34240588   | A      | 0.01375 |
| rs8055861    | 16         | 34679872   | A      | 0.01428 |
| rs11150645   | 16         | 36815983   | G      | 0.00713 |
| rs252299     | 16         | 36815983   | G      | 0.00005 |
| rs4787413    | 16         | 36815983   | A      | 0.00288 |
| rs8045153    | 16         | 36815983   | G      | 0.01537 |
| rs17638800   | 16         | 36815983   | A      | 0.01643 |
| rs8055861    | 16         | 36815983   | G      | 0.01428 |
| rs11150645   | 16         | 36815983   | G      | 0.01537 |
| rs252299     | 16         | 36815983   | G      | 0.00005 |
| rs4787413    | 16         | 36815983   | A      | 0.00288 |
| rs8045153    | 16         | 36815983   | G      | 0.01537 |
| rs17638800   | 16         | 36815983   | A      | 0.01643 |
| rs8055861    | 16         | 36815983   | G      | 0.01428 |
| rs11150645   | 16         | 36815983   | G      | 0.01537 |
| rs252299     | 16         | 36815983   | G      | 0.00005 |
| rs4787413    | 16         | 36815983   | A      | 0.00288 |
| rs8045153    | 16         | 36815983   | G      | 0.01537 |
| rs17638800   | 16         | 36815983   | A      | 0.01643 |
| rs8055861    | 16         | 36815983   | G      | 0.01428 |
| rs11150645   | 16         | 36815983   | G      | 0.01537 |
| rs252299     | 16         | 36815983   | G      | 0.00005 |
| rs4787413    | 16         | 36815983   | A      | 0.00288 |
| rs8045153    | 16         | 36815983   | G      | 0.01537 |
| rs17638800   | 16         | 36815983   | A      | 0.01643 |
| rs8055861    | 16         | 36815983   | G      | 0.01428 |
| rs11150645   | 16         | 36815983   | G      | 0.01537 |
| rs252299     | 16         | 36815983   | G      | 0.00005 |
| rs4787413    | 16         | 36815983   | A      | 0.00288 |
| rs8045153    | 16         | 36815983   | G      | 0.01537 |
| rs17638800   | 16         | 36815983   | A      | 0.01643 |
| rs8055861    | 16         | 36815983   | G      | 0.01428 |
| rs11150645   | 16         | 36815983   | G      | 0.01537 |
| rs252299     | 16         | 36815983   | G      | 0.00005 |
| rs4787413    | 16         | 36815983   | A      | 0.00288 |
| rs8045153    | 16         | 36815983   | G      | 0.01537 |
| rs          | Chromosome | Position |Allele | p-value |
|------------|------------|----------|-------|---------|
| rs4530133  | 16         | 52753690 | T     | 0.00422 |
| rs1562797  | 16         | 52900570 | T     | 0.01086 |
| rs9972796  | 16         | 53021837 | T     | 0.00182 |
| rs1420284  | 16         | 53030284 | A     | 0.00466 |
| rs8059628  | 16         | 53135829 | G     | 0.01057 |
| rs16953751 | 16         | 53185161 | A     | 0.01372 |
| rs12932067 | 16         | 53733607 | G     | 0.00640 |
| rs7197650  | 16         | 53866889 | C     | 0.01009 |
| rs12932846 | 16         | 53872091 | C     | 0.00973 |
| rs6499756  | 16         | 53909023 | G     | 0.00746 |
| rs2192855  | 16         | 54126146 | G     | 0.00521 |
| rs4238780  | 16         | 54130822 | C     | 0.00278 |
| rs7184467  | 16         | 54233021 | G     | 0.00489 |
| rs36006    | 16         | 54297556 | G     | 0.00309 |
| rs4309387  | 16         | 54441384 | C     | 0.01536 |
| rs8051382  | 16         | 54648394 | G     | 0.00019 |
| rs2008084  | 16         | 54690175 | T     | 0.00715 |
| rs10521336 | 16         | 54813457 | A     | 0.01184 |
| rs11644504 | 16         | 54819250 | C     | 0.01654 |
| rs1382362  | 16         | 54831387 | A     | 0.01652 |
| rs2289114  | 16         | 55496023 | A     | 0.00370 |
| rs11640308 | 16         | 55497470 | C     | 0.00107 |
| rs37027    | 16         | 55507529 | C     | 0.00232 |
| rs11076193 | 16         | 56097198 | T     | 0.01191 |
| rs2731757  | 16         | 56783625 | G     | 0.01246 |
| rs2731740  | 16         | 56791457 | A     | 0.00077 |
| rs7197148  | 16         | 56962005 | A     | 0.00236 |
| rs17821543 | 16         | 57098376 | T     | 0.00066 |
| rs41445346 | 16         | 57149779 | G     | 0.00648 |
| rs1871301  | 16         | 57552966 | C     | 0.00589 |
| rs8062999  | 16         | 57565618 | A     | 0.01455 |
| rs13334953 | 16         | 58096610 | T     | 0.01368 |
| rs7191772  | 16         | 58124917 | T     | 0.01174 |
| rs11863562 | 16         | 58129174 | A     | 0.00511 |
| rs1500283  | 16         | 58338513 | G     | 0.01214 |
| rs11076365 | 16         | 58767745 | T     | 0.00407 |
| rs10431914 | 16         | 58791285 | A     | 0.00804 |
| rs16962092 | 16         | 59068132 | C     | 0.01132 |
| rs4785141  | 16         | 59537312 | C     | 0.01115 |
| rs7195151  | 16         | 59639872 | C     | 0.00474 |
| rs4784117  | 16         | 60012830 | G     | 0.01289 |
| rs2407919  | 16         | 60162149 | A     | 0.00396 |
| rs8058822  | 16         | 60187711 | T     | 0.00406 |
| rs7189354  | 16         | 60463745 | C     | 0.00858 |
| rs          | Chromosome | Position  | Allele | P-value |
|------------|------------|-----------|--------|---------|
| rs2938719  | 16         | 61131967  | C      | 0.00389 |
| rs3011235  | 16         | 61137678  | A      | 0.00388 |
| rs2962442  | 16         | 61333268  | T      | 0.00753 |
| rs153349   | 16         | 61620101  | T      | 0.00222 |
| rs258159   | 16         | 62371274  | A      | 0.01035 |
| rs11648590 | 16         | 63017123  | T      | 0.00408 |
| rs41362348 | 16         | 63189754  | T      | 0.01458 |
| rs153349   | 16         | 61620101  | T      | 0.00222 |
| rs258159   | 16         | 62371274  | A      | 0.01035 |
| rs11648590 | 16         | 63017123  | T      | 0.00408 |
| rs41362348 | 16         | 63189754  | T      | 0.01458 |
| rs153349   | 16         | 61620101  | T      | 0.00222 |
| rs258159   | 16         | 62371274  | A      | 0.01035 |
| rs11648590 | 16         | 63017123  | T      | 0.00408 |
| rs41362348 | 16         | 63189754  | T      | 0.01458 |
| rs153349   | 16         | 61620101  | T      | 0.00222 |
| rs258159   | 16         | 62371274  | A      | 0.01035 |
| rs11648590 | 16         | 63017123  | T      | 0.00408 |
| rs41362348 | 16         | 63189754  | T      | 0.01458 |
| rs153349   | 16         | 61620101  | T      | 0.00222 |
| rs258159   | 16         | 62371274  | A      | 0.01035 |
| rs11648590 | 16         | 63017123  | T      | 0.00408 |
| rs41362348 | 16         | 63189754  | T      | 0.01458 |
| SNP       | Chromosome | Position | Allele | P-value |
|-----------|------------|----------|--------|---------|
| rs8051876 | 16         | 72656475 | C      | 0.01025 |
| rs2240244 | 16         | 73314484 | C      | 0.01205 |
| rs8060979 | 16         | 73364993 | A      | 0.00625 |
| rs11645072| 16         | 73479949 | C      | 0.01526 |
| rs6564245 | 16         | 73866400 | G      | 0.00991 |
| rs1018097 | 16         | 74555050 | C      | 0.01402 |
| rs6564297 | 16         | 74566842 | C      | 0.00098 |
| rs8055817 | 16         | 74579010 | G      | 0.00622 |
| rs13337655| 16         | 74691349 | A      | 0.01057 |
| rs11645072| 16         | 74717773 | C      | 0.00041 |
| rs4888477 | 16         | 74720494 | A      | 0.01518 |
| rs4888478 | 16         | 74720684 | A      | 0.00099 |
| rs724246  | 16         | 74726944 | C      | 0.00037 |
| rs10871321| 16         | 74757947 | G      | 0.01632 |
| rs16943958| 16         | 74772660 | G      | 0.01134 |
| rs41526748| 16         | 74773650 | G      | 0.01409 |
| rs12597760| 16         | 74792527 | A      | 0.00357 |
| rs3851752 | 16         | 74793211 | G      | 0.01104 |
| rs11863642| 16         | 74793563 | A      | 0.00540 |
| rs11149879| 16         | 74793613 | C      | 0.01506 |
| rs41515248| 16         | 74794055 | T      | 0.01594 |
| rs4888483 | 16         | 74794135 | G      | 0.01662 |
| rs4888484 | 16         | 74794288 | A      | 0.01658 |
| rs4533311 | 16         | 75087638 | G      | 0.01547 |
| rs1496961 | 16         | 75492651 | T      | 0.01298 |
| rs1874531 | 16         | 75511507 | A      | 0.01078 |
| rs889706  | 16         | 75875092 | T      | 0.00605 |
| rs2562125 | 16         | 75907154 | C      | 0.01150 |
| rs41339645| 16         | 75978734 | G      | 0.00560 |
| rs17771505| 16         | 76080236 | G      | 0.00985 |
| rs8045050 | 16         | 76179102 | T      | 0.01369 |
| rs17623334| 16         | 76207451 | G      | 0.00859 |
| rs8062748 | 16         | 76270643 | C      | 0.01558 |
| rs409818  | 16         | 76572964 | T      | 0.00606 |
| rs11643308| 16         | 76766570 | C      | 0.00474 |
| rs4334310 | 16         | 76842313 | T      | 0.00422 |
| rs4459554 | 16         | 76959950 | C      | 0.00934 |
| rs2738708 | 16         | 77080865 | G      | 0.00621 |
| rs2738577 | 16         | 77218875 | T      | 0.00497 |
| rs1981881 | 16         | 77223653 | G      | 0.00078 |
| rs2550626 | 16         | 77236228 | C      | 0.00179 |
| rs4887981 | 16         | 77359617 | T      | 0.00869 |
| rs6564613 | 16         | 77459270 | G      | 0.01437 |
| rs1995549 | 16         | 77541637 | C      | 0.00687 |
| rs          | Chromosome | Position | Allele | p-value |
|------------|------------|----------|--------|---------|
| rs1566884  | 16         | 77569485 | A      | 0.00277 |
| rs16949152 | 16         | 77576754 | C      | 0.00210 |
| rs17727687 | 16         | 77681077 | A      | 0.01644 |
| rs11859942 | 16         | 77737760 | C      | 0.00450 |
| rs17724508 | 16         | 77907705 | G      | 0.01558 |
| rs16950218 | 16         | 77909775 | G      | 0.01493 |
| rs16954075 | 16         | 78085689 | C      | 0.01184 |
| rs17724508 | 16         | 78075910 | G      | 0.01493 |
| rs16950218 | 16         | 78075910 | G      | 0.01493 |
| rs12599059 | 16         | 78227792 | C      | 0.01159 |
| rs11859942 | 16         | 78296335 | C      | 0.00707 |
| rs17727687 | 16         | 78350762 | A      | 0.00802 |
| rs7197544  | 16         | 78494702 | C      | 0.00002 |
| rs10871375 | 16         | 78692609 | G      | 0.00678 |
| rs16952612 | 16         | 79130745 | C      | 0.01595 |
| rs4533296  | 16         | 79383307 | C      | 0.00314 |
| rs16954075 | 16         | 79405063 | G      | 0.00515 |
| rs10459871 | 16         | 79650568 | C      | 0.00385 |
| rs7190477  | 16         | 80197103 | C      | 0.00460 |
| rs12444183 | 16         | 80330710 | A      | 0.01569 |
| rs6564919  | 16         | 80884590 | T      | 0.00955 |
| rs7192802  | 16         | 81011673 | G      | 0.00729 |
| rs2966245  | 16         | 81213161 | T      | 0.00204 |
| rs1029637  | 16         | 81352714 | G      | 0.00921 |
| rs2194341  | 16         | 81826720 | A      | 0.00680 |
| rs12933790 | 16         | 81837945 | G      | 0.00921 |
| rs7189280  | 16         | 81853239 | G      | 0.00595 |
| rs1019567  | 16         | 81901216 | C      | 0.00928 |
| rs16960354 | 16         | 81989999 | G      | 0.01035 |
| SNP      | Chromosome | Position (NovoGenome) | Reference Allele | Minor Allele | MAF  |
|----------|------------|-----------------------|------------------|--------------|------|
| rs8056534 | 16         | 82096406              | G                | 0.00268      |
| rs4782539 | 16         | 82097934              | G                | 0.00711      |
| rs4782814 | 16         | 82127288              | C                | 0.00953      |
| rs4510000 | 16         | 82142657              | C                | 0.00777      |
| rs4550432 | 16         | 82178360              | G                | 0.00027      |
| rs4782555 | 16         | 82340293              | A                | 0.00385      |
| rs4782814 | 16         | 82127288              | C                | 0.00953      |
| rs4510000 | 16         | 82142657              | C                | 0.00777      |
| rs4550432 | 16         | 82178360              | G                | 0.00027      |
| rs4782555 | 16         | 82340293              | A                | 0.00385      |
| rs4782814 | 16         | 82127288              | C                | 0.00953      |
| rs4510000 | 16         | 82142657              | C                | 0.00777      |
| rs4550432 | 16         | 82178360              | G                | 0.00027      |
| rs4782555 | 16         | 82340293              | A                | 0.00385      |
| rs4782814 | 16         | 82127288              | C                | 0.00953      |
| rs4510000 | 16         | 82142657              | C                | 0.00777      |
| rs4550432 | 16         | 82178360              | G                | 0.00027      |
| rs4782555 | 16         | 82340293              | A                | 0.00385      |
| rs4782814 | 16         | 82127288              | C                | 0.00953      |
| rs4510000 | 16         | 82142657              | C                | 0.00777      |
| rs4550432 | 16         | 82178360              | G                | 0.00027      |
| rs4782555 | 16         | 82340293              | A                | 0.00385      |
| rs4782814 | 16         | 82127288              | C                | 0.00953      |
| rs4510000 | 16         | 82142657              | C                | 0.00777      |
| rs4550432 | 16         | 82178360              | G                | 0.00027      |
| rs4782555 | 16         | 82340293              | A                | 0.00385      |
| rs4782814 | 16         | 82127288              | C                | 0.00953      |
| rs4510000 | 16         | 82142657              | C                | 0.00777      |
| rs4550432 | 16         | 82178360              | G                | 0.00027      |
| rs4782555 | 16         | 82340293              | A                | 0.00385      |
| rs4782814 | 16         | 82127288              | C                | 0.00953      |
| rs4510000 | 16         | 82142657              | C                | 0.00777      |
| rs4550432 | 16         | 82178360              | G                | 0.00027      |
| rs4782555 | 16         | 82340293              | A                | 0.00385      |
| rs4782814 | 16         | 82127288              | C                | 0.00953      |
| rs4510000 | 16         | 82142657              | C                | 0.00777      |
| rs4550432 | 16         | 82178360              | G                | 0.00027      |
| rs4782555 | 16         | 82340293              | A                | 0.00385      |
| rs4782814 | 16         | 82127288              | C                | 0.00953      |
| rs4510000 | 16         | 82142657              | C                | 0.00777      |
| rs4550432 | 16         | 82178360              | G                | 0.00027      |
| rs4782555 | 16         | 82340293              | A                | 0.00385      |
| rs4782814 | 16         | 82127288              | C                | 0.00953      |
| rs4510000 | 16         | 82142657              | C                | 0.00777      |
| rs4550432 | 16         | 82178360              | G                | 0.00027      |
| rs4782555 | 16         | 82340293              | A                | 0.00385      |
| rs4782814 | 16         | 82127288              | C                | 0.00953      |
| rs4510000 | 16         | 82142657              | C                | 0.00777      |
| rs4550432 | 16         | 82178360              | G                | 0.00027      |
| rs4782555 | 16         | 82340293              | A                | 0.00385      |
| rs4782814 | 16         | 82127288              | C                | 0.00953      |
| rs4510000 | 16         | 82142657              | C                | 0.00777      |
| rs4550432 | 16         | 82178360              | G                | 0.00027      |
| rs4782555 | 16         | 82340293              | A                | 0.00385      |
| rs4782814 | 16         | 82127288              | C                | 0.00953      |
| rs4510000 | 16         | 82142657              | C                | 0.00777      |
| rs4550432 | 16         | 82178360              | G                | 0.00027      |
| rs4782555 | 16         | 82340293              | A                | 0.00385      |
| rs4782814 | 16         | 82127288              | C                | 0.00953      |
| rs4510000 | 16         | 82142657              | C                | 0.00777      |
| rs4550432 | 16         | 82178360              | G                | 0.00027      |
| rs4782555 | 16         | 82340293              | A                | 0.00385      |
| rs4782814 | 16         | 82127288              | C                | 0.00953      |
| rs4510000 | 16         | 82142657              | C                | 0.00777      |
| rs4550432 | 16         | 82178360              | G                | 0.00027      |
| rs4782555 | 16         | 82340293              | A                | 0.00385      |
| rs4782814 | 16         | 82127288              | C                | 0.00953      |
| SNP       | Chromosome | Position   | Allele | P-value |
|-----------|------------|------------|--------|---------|
| rs6502692 | 17         | 2966475    | C      | 0.0155  |
| rs7220491 | 17         | 2981856    | C      | 0.0126  |
| rs3907384 | 17         | 3248547    | G      | 0.0113  |
| rs227787  | 17         | 3271560    | A      | 0.0014  |
| rs17633288| 17         | 3430534    | G      | 0.0129  |
| rs3744678 | 17         | 3582517    | C      | 0.0085  |
| rs16942524| 17         | 3827102    | T      | 0.0162  |
| rs17176181| 17         | 3954399    | T      | 0.0098  |
| rs10521129| 17         | 3955569    | T      | 0.0020  |
| rs12952341| 17         | 4332252    | C      | 0.0158  |
| rs10521184| 17         | 4422333    | C      | 0.0055  |
| rs11078571| 17         | 5396485    | A      | 0.0108  |
| rs16955281| 17         | 5805293    | A      | 0.0136  |
| rs8079805 | 17         | 5876608    | A      | 0.0025  |
| rs9003554 | 17         | 6206438    | A      | 0.0012  |
| rs4796560 | 17         | 6656402    | G      | 0.0020  |
| rs9630721 | 17         | 6791092    | T      | 0.0064  |
| rs2292067 | 17         | 7192872    | G      | 0.0100  |
| rs1565816 | 17         | 7708213    | T      | 0.0089  |
| rs4791641 | 17         | 8101874    | C      | 0.0076  |
| rs268459  | 17         | 8425408    | A      | 0.0159  |
| rs7217233 | 17         | 8556959    | C      | 0.0012  |
| rs9894980 | 17         | 8644901    | A      | 0.0087  |
| rs4791771 | 17         | 8788773    | T      | 0.0150  |
| rs7224864 | 17         | 8802384    | G      | 0.0114  |
| rs989809  | 17         | 9308277    | C      | 0.0162  |
| rs1110096 | 17         | 9560527    | A      | 0.0029  |
| rs531437  | 17         | 9593224    | C      | 0.0072  |
| rs6503253 | 17         | 9656125    | A      | 0.0056  |
| rs17207885| 17         | 9671489    | T      | 0.0044  |
| rs9897224 | 17         | 9864656    | C      | 0.0119  |
| rs2240577 | 17         | 10160091   | C      | 0.0055  |
| rs8077443 | 17         | 10428512   | T      | 0.0071  |
| rs8064939 | 17         | 11179760   | T      | 0.0160  |
| rs10521184| 17         | 11477189   | G      | 0.0154  |
| rs237270  | 17         | 12278259   | T      | 0.0116  |
| rs11870286| 17         | 12325534   | C      | 0.0076  |
| rs11654944| 17         | 12336944   | C      | 0.0063  |
| rs2013153 | 17         | 12549877   | A      | 0.0031  |
| rs9905366 | 17         | 12942425   | A      | 0.0101  |
| rs2215077 | 17         | 13026348   | C      | 0.0047  |
| rs2322858 | 17         | 13085487   | C      | 0.0160  |
| SNP       | Chromosome | Position   | Allele | P-value |
|-----------|------------|------------|--------|---------|
| rs11078144 | 17         | 13154495   | A      | 0.00669 |
| rs4792400  | 17         | 13651680   | C      | 0.00234 |
| rs1860124  | 17         | 13668116   | T      | 0.00777 |
| rs1859904  | 17         | 14098414   | T      | 0.00187 |
| rs16949994 | 17         | 14461941   | G      | 0.01253 |
| rs11652535 | 17         | 14696035   | A      | 0.00783 |
| rs1860124  | 17         | 14927578   | C      | 0.00426 |
| rs16949994 | 17         | 14519718   | T      | 0.00892 |
| rs11652573 | 17         | 14482865   | T      | 0.00368 |
| rs11649745 | 17         | 14816462   | C      | 0.00708 |
| rs11652535 | 17         | 14696035   | A      | 0.00783 |
| rs11656166 | 17         | 14927578   | C      | 0.00187 |
| rs11665943 | 17         | 15234693   | T      | 0.01271 |
| rs11652573 | 17         | 14482865   | T      | 0.00892 |
| rs11665943 | 17         | 14927578   | C      | 0.00708 |
| rs11652535 | 17         | 14696035   | A      | 0.00783 |
| rs11656166 | 17         | 14927578   | C      | 0.01434 |
| rs11652573 | 17         | 14482865   | T      | 0.00892 |
| rs11665943 | 17         | 14927578   | C      | 0.00708 |
| rs11652535 | 17         | 14696035   | A      | 0.00783 |
| rs11656166 | 17         | 14927578   | C      | 0.00426 |
| rs11652573 | 17         | 14482865   | T      | 0.00892 |
| rs11665943 | 17         | 14927578   | C      | 0.00708 |
| rs11652535 | 17         | 14696035   | A      | 0.00783 |
| rs11656166 | 17         | 14927578   | C      | 0.00426 |
| rs11652573 | 17         | 14482865   | T      | 0.00892 |
| rs11665943 | 17         | 14927578   | C      | 0.00708 |
| rs11652535 | 17         | 14696035   | A      | 0.00783 |
| rs11656166 | 17         | 14927578   | C      | 0.00426 |
| rs11652573 | 17         | 14482865   | T      | 0.00892 |
| rs11665943 | 17         | 14927578   | C      | 0.00708 |
| rs11652535 | 17         | 14696035   | A      | 0.00783 |
| rs11656166 | 17         | 14927578   | C      | 0.00426 |
| rs11652573 | 17         | 14482865   | T      | 0.00892 |
| rs11665943 | 17         | 14927578   | C      | 0.00708 |
| SNP          | Chromosome | Position | Allele | p-value |
|--------------|------------|----------|--------|---------|
| rs6505386    | 17         | 29247841 | A      | 0.00416 |
| rs4239243    | 17         | 29353806 | A      | 0.00399 |
| rs4513143    | 17         | 29361439 | G      | 0.01413 |
| rs2228989    | 17         | 29507383 | C      | 0.01111 |
| rs1860190    | 17         | 29600686 | A      | 0.00408 |
| rs16969603   | 17         | 29734011 | A      | 0.00088 |
| rs11867951   | 17         | 29734719 | C      | 0.01182 |
| rs159304     | 17         | 29735833 | A      | 0.01190 |
| rs16969695   | 17         | 29741828 | T      | 0.00745 |
| rs212498     | 17         | 29755162 | G      | 0.01444 |
| rs159244     | 17         | 29769746 | G      | 0.01441 |
| rs756882     | 17         | 29772173 | G      | 0.00969 |
| rs295066     | 17         | 29808100 | G      | 0.00674 |
| rs4795972    | 17         | 30039109 | A      | 0.00470 |
| rs4795980    | 17         | 30050692 | G      | 0.01635 |
| rs2240667    | 17         | 30076771 | G      | 0.01665 |
| rs4795043    | 17         | 30092666 | G      | 0.00695 |
| rs11657617   | 17         | 30230919 | C      | 0.01492 |
| rs6505447    | 17         | 30523981 | T      | 0.00626 |
| rs772124     | 17         | 30655442 | G      | 0.00208 |
| rs4239251    | 17         | 30820998 | A      | 0.00591 |
| rs11655913   | 17         | 30821778 | A      | 0.01103 |
| rs8066132    | 17         | 30830445 | G      | 0.01467 |
| rs41324748   | 17         | 30849516 | C      | 0.01600 |
| rs4239252    | 17         | 31187678 | G      | 0.01273 |
| rs854684     | 17         | 31336328 | G      | 0.00589 |
| rs3816279    | 17         | 32115831 | C      | 0.00082 |
| rs9330251    | 17         | 32663451 | A      | 0.01276 |
| rs2189303    | 17         | 33134218 | G      | 0.01028 |
| rs2107131    | 17         | 33160802 | A      | 0.00457 |
| rs2610383    | 17         | 33678831 | G      | 0.00431 |
| rs3785744    | 17         | 34527291 | G      | 0.01067 |
| rs903507     | 17         | 34979949 | A      | 0.00470 |
| rs9972941    | 17         | 36121448 | C      | 0.00986 |
| rs7502428    | 17         | 36133740 | T      | 0.00067 |
| rs16968916   | 17         | 36439391 | G      | 0.00364 |
| rs9900575    | 17         | 36561201 | T      | 0.00965 |
| rs1001191    | 17         | 36712002 | T      | 0.00887 |
| rs12449671   | 17         | 36725455 | T      | 0.00636 |
| rs9911630    | 17         | 38441868 | A      | 0.01533 |
| rs4793197    | 17         | 38485428 | C      | 0.01141 |
| rs799916     | 17         | 38496716 | T      | 0.01441 |
| rs8176126    | 17         | 38512575 | G      | 0.01161 |
| rs4520874    | 17         | 38771048 | A      | 0.00352 |
| SNP       | Chromosome | Position   | Allele | P-value |
|-----------|------------|------------|--------|---------|
| rs4793229 | 17         | 38773860   | T      | 0.01006 |
| rs9646413 | 17         | 38781683   | A      | 0.01237 |
| rs4792990 | 17         | 38817755   | T      | 0.00262 |
| rs9748005 | 17         | 39002692   | T      | 0.00661 |
| rs556197  | 17         | 39065034   | T      | 0.00673 |
| rs7213436 | 17         | 39607689   | G      | 0.00080 |
| rs4239144 | 17         | 40319989   | A      | 0.00709 |
| rs9646413 | 17         | 40510905   | C      | 0.00623 |
| rs1035733 | 17         | 40538554   | C      | 0.00162 |
| rs2083798 | 17         | 4226896    | T      | 0.00962 |
| rs2083797 | 17         | 4227692    | A      | 0.00059 |
| rs4968279 | 17         | 42285344   | T      | 0.01240 |
| rs16941306| 17         | 4236551    | T      | 0.01287 |
| rs2292700 | 17         | 4271742    | C      | 0.00816 |
| rs17035   | 17         | 4325967    | T      | 0.00198 |
| rs2021752 | 17         | 4359526    | A      | 0.01592 |
| rs16953235| 17         | 4359947    | G      | 0.00203 |
| rs3792692 | 17         | 4361091    | T      | 0.01601 |
| rs3897986 | 17         | 4361653    | A      | 0.00868 |
| rs2305433 | 17         | 4362043    | C      | 0.01200 |
| rs11652932| 17         | 4405275    | T      | 0.01023 |
| rs11079856| 17         | 4454571    | C      | 0.01075 |
| rs17636326| 17         | 4457290    | T      | 0.00265 |
| rs6504617 | 17         | 4504049    | G      | 0.00831 |
| rs17712721| 17         | 4509727    | G      | 0.01433 |
| rs2586498 | 17         | 4563125    | A      | 0.00091 |
| rs8075406 | 17         | 4610452    | A      | 0.00514 |
| rs9912472 | 17         | 4708399    | T      | 0.00517 |
| rs5022059 | 17         | 4709752    | C      | 0.00306 |
| rs16951051| 17         | 4758439    | G      | 0.01113 |
| rs10514999| 17         | 4765502    | C      | 0.00440 |
| rs1503051 | 17         | 4765931    | C      | 0.01332 |
| rs10515007| 17         | 4775053    | A      | 0.00463 |
| rs1386269 | 17         | 4776277    | G      | 0.01627 |
| rs11080004| 17         | 4780280    | C      | 0.00804 |
| rs4794347 | 17         | 4786259    | T      | 0.00021 |
| rs350011  | 17         | 4793858    | A      | 0.00875 |
| rs350016  | 17         | 4794188    | T      | 0.01338 |
| rs4794363 | 17         | 4803469    | T      | 0.01230 |
| rs954306  | 17         | 4804063    | T      | 0.00728 |
| rs2319988 | 17         | 4804077    | T      | 0.00935 |
| rs1492198 | 17         | 4805105    | C      | 0.01422 |
| rs2467486 | 17         | 4805886    | A      | 0.01519 |
| rsID       | Chromosome | Position   | Allele | P-value |
|------------|------------|------------|--------|---------|
| rs1492227  | 17         | 48072908   | G      | 0.00742 |
| rs2452247  | 17         | 48093607   | A      | 0.01464 |
| rs2452248  | 17         | 48093793   | G      | 0.01568 |
| rs1907667  | 17         | 48094974   | A      | 0.01575 |
| rs2452249  | 17         | 48096000   | A      | 0.01562 |
| rs10515023 | 17         | 48121473   | G      | 0.00463 |
| rs4329953  | 17         | 48165146   | G      | 0.01667 |
| rs4451995  | 17         | 48192021   | G      | 0.00231 |
| rs1907667  | 17         | 48196285   | G      | 0.00889 |
| rs10515026 | 17         | 48205748   | C      | 0.00815 |
| rs807072   | 17         | 48664476   | A      | 0.01404 |
| rs1607974  | 17         | 48666911   | T      | 0.01293 |
| rs9898437  | 17         | 48669406   | C      | 0.00102 |
| rs4271635  | 17         | 49239793   | T      | 0.00858 |
| rs16954302 | 17         | 49633313   | C      | 0.00705 |
| rs979800   | 17         | 49663220   | C      | 0.00236 |
| rs1396087  | 17         | 49667564   | C      | 0.01566 |
| rs2958872  | 17         | 50262885   | G      | 0.01042 |
| rs2934884  | 17         | 50273901   | G      | 0.01386 |
| rs11658131 | 17         | 50298397   | T      | 0.00208 |
| rs1013100  | 17         | 50628823   | C      | 0.00305 |
| rs17817743 | 17         | 50666251   | G      | 0.01511 |
| rs244401   | 17         | 50675059   | A      | 0.01351 |
| rs4794571  | 17         | 50800645   | T      | 0.01301 |
| rs6504972  | 17         | 50956167   | A      | 0.01333 |
| rs12940304 | 17         | 50962748   | C      | 0.00707 |
| rs1396214  | 17         | 50963972   | T      | 0.00795 |
| rs7220324  | 17         | 50976491   | A      | 0.00602 |
| rs1876520  | 17         | 50976704   | G      | 0.01326 |
| rs4239197  | 17         | 50978009   | A      | 0.00762 |
| rs878601   | 17         | 50995444   | G      | 0.01632 |
| rs8067664  | 17         | 50999345   | A      | 0.01488 |
| rs8080325  | 17         | 51004530   | T      | 0.01378 |
| rs8080344  | 17         | 51004571   | A      | 0.01545 |
| rs7211277  | 17         | 51009466   | A      | 0.01628 |
| rs7211426  | 17         | 51009547   | A      | 0.01085 |
| rs986959   | 17         | 51020804   | G      | 0.00182 |
| rs17819647 | 17         | 51021347   | A      | 0.01391 |
| rs9912785  | 17         | 51025593   | G      | 0.00826 |
| rs9905891  | 17         | 51041857   | C      | 0.01545 |
| rs9891412  | 17         | 51055766   | A      | 0.01416 |
| rs9907033  | 17         | 51070449   | G      | 0.01621 |
| rs16956163 | 17         | 51077176   | T      | 0.01231 |
| rs8079136  | 17         | 51262804   | T      | 0.00130 |
| SNP          | Chromosome | Position   | Allele  | P-value |
|-------------|------------|------------|---------|---------|
| rs6505061   | 17         | 51944619   | C       | 0.01571 |
| rs1879143   | 17         | 52113556   | G       | 0.01338 |
| rs887088    | 17         | 52113654   | G       | 0.00964 |
| rs3914803   | 17         | 52175286   | A       | 0.01275 |
| rs792402    | 17         | 52773732   | A       | 0.00957 |
| rs792387    | 17         | 52784444   | C       | 0.01603 |
| rs9004395   | 17         | 52790274   | T       | 0.01583 |
| rs8069761   | 17         | 52859940   | A       | 0.01219 |
| rs277067    | 17         | 52920675   | G       | 0.00018 |
| rs3785489   | 17         | 53233479   | C       | 0.01108 |
| rs10853034  | 17         | 56939347   | C       | 0.00976 |
| rs12451501  | 17         | 57602509   | G       | 0.01664 |
| rs4968413   | 17         | 57618904   | T       | 0.01232 |
| rs4968414   | 17         | 57618993   | A       | 0.01641 |
| rs888500    | 17         | 57804047   | T       | 0.00302 |
| rs6504112   | 17         | 58034200   | A       | 0.00991 |
| rs2303575   | 17         | 59958641   | G       | 0.01074 |
| rs2676289   | 17         | 60136200   | G       | 0.00043 |
| rs16960881  | 17         | 60609580   | T       | 0.00396 |
| rs9915678   | 17         | 60684655   | G       | 0.00432 |
| rs17689972  | 17         | 60686487   | G       | 0.00648 |
| rs17763899  | 17         | 60731999   | A       | 0.00753 |
| rs9910773   | 17         | 60732937   | T       | 0.01279 |
| rs41390346  | 17         | 60754695   | G       | 0.01471 |
| rs16962248  | 17         | 60824816   | A       | 0.01223 |
| rs9910440   | 17         | 60878885   | T       | 0.00528 |
| rs9908987   | 17         | 60878953   | C       | 0.00671 |
| rs9912807   | 17         | 60916642   | G       | 0.00324 |
| rs7222221   | 17         | 61064830   | C       | 0.00906 |
| rs9903792   | 17         | 61777999   | T       | 0.01099 |
| rs956952    | 17         | 61948969   | A       | 0.01404 |
| rs16959508  | 17         | 61949724   | G       | 0.01185 |
| rs16959514  | 17         | 61952114   | A       | 0.01379 |
| rs4791017   | 17         | 62313154   | G       | 0.01504 |
| rs1005381   | 17         | 62367674   | A       | 0.01555 |
| rs4791003   | 17         | 62375734   | A       | 0.00208 |
| rs3764555   | 17         | 63756173   | A       | 0.01324 |
| rs12937830  | 17         | 63845903   | C       | 0.00896 |
| rs6501429   | 17         | 63905284   | G       | 0.00789 |
| rs2909218   | 17         | 63976141   | C       | 0.00981 |
| rs9909182   | 17         | 64312755   | C       | 0.01362 |
| SNP          | Chromosome | Position   | Allele | p-value |
|--------------|------------|------------|--------|---------|
| rs2302133    | 17         | 64593327   | G      | 0.00509 |
| rs41496448   | 17         | 64702744   | C      | 0.00054 |
| rs1013996    | 17         | 65575226   | A      | 0.00715 |
| rs3760393    | 17         | 65581802   | T      | 0.01230 |
| rs10221235   | 17         | 65605507   | G      | 0.00451 |
| rs9898954    | 17         | 65726365   | A      | 0.00146 |
| rs17115597   | 17         | 65898815   | T      | 0.01635 |
| rs1011729    | 17         | 66699182   | A      | 0.01024 |
| rs16976580   | 17         | 66848582   | C      | 0.00250 |
| rs16976604   | 17         | 66918722   | T      | 0.01589 |
| rs1776990    | 17         | 67046796   | G      | 0.01078 |
| rs1186731    | 17         | 67529503   | T      | 0.00350 |
| rs41446845   | 17         | 67730661   | G      | 0.01657 |
| rs11077623   | 17         | 68184295   | C      | 0.00607 |
| rs7503479    | 17         | 68306057   | C      | 0.01105 |
| rs17183225   | 17         | 68424032   | T      | 0.01439 |
| rs16977552   | 17         | 68763760   | T      | 0.01352 |
| rs2683165    | 17         | 69257571   | A      | 0.00942 |
| rs2683164    | 17         | 69257822   | C      | 0.01105 |
| rs11650448   | 17         | 69496127   | A      | 0.01103 |
| rs7406894    | 17         | 69565646   | A      | 0.00616 |
| rs6501689    | 17         | 69566767   | C      | 0.01110 |
| rs8073660    | 17         | 69813027   | A      | 0.01222 |
| rs4788843    | 17         | 70039686   | T      | 0.00797 |
| rs4789189    | 17         | 70909580   | G      | 0.01465 |
| rs6501805    | 17         | 70967523   | C      | 0.01315 |
| rs2278826    | 17         | 71674592   | C      | 0.01229 |
| rs11077873   | 17         | 72384500   | G      | 0.00564 |
| rs582096     | 17         | 72415372   | G      | 0.00418 |
| rs17609991   | 17         | 72540597   | A      | 0.00842 |
| rs7220979    | 17         | 74116045   | C      | 0.00898 |
| rs11654023   | 17         | 74467863   | C      | 0.00992 |
| rs8074370    | 17         | 74468926   | A      | 0.00779 |
| rs7223911    | 17         | 74743681   | A      | 0.01666 |
| rs4243244    | 17         | 75465682   | A      | 0.01588 |
| rs7213696    | 17         | 76335766   | C      | 0.01453 |
| rs2138125    | 17         | 76403084   | G      | 0.00220 |
| rs2289762    | 17         | 76473705   | T      | 0.01539 |
| rs11868024   | 17         | 77286571   | T      | 0.01520 |
| rs9674648    | 17         | 77690045   | G      | 0.00365 |
| rs7209788    | 17         | 78009203   | C      | 0.00423 |
| SNP       | Chromosome | Position   | Minor Allele | Minor Allele Frequency |
|-----------|------------|------------|--------------|------------------------|
| rs16942962| 18         | 334459     | C            | 0.01602                |
| rs1471520 | 18         | 475410     | A            | 0.01363                |
| rs2219281 | 18         | 603020     | T            | 0.00742                |
| rs2846807 | 18         | 891686     | A            | 0.00915                |
| rs9954574 | 18         | 983637     | G            | 0.01276                |
| rs789073  | 18         | 998431     | A            | 0.01278                |
| rs1847722 | 18         | 1155853    | A            | 0.01278                |
| rs1471520 | 18         | 1814510    | G            | 0.00127                |
| rs1826508 | 18         | 2069540    | C            | 0.00500                |
| rs670003  | 18         | 2228246    | T            | 0.00193                |
| rs613796  | 18         | 2862449    | A            | 0.00689                |
| rs10460009| 18         | 2938029    | T            | 0.01042                |
| rs948298  | 18         | 3079522    | G            | 0.00104                |
| rs10468743| 18         | 3454043    | G            | 0.00551                |
| rs1791375 | 18         | 3603827    | T            | 0.00270                |
| rs1791397 | 18         | 3646607    | C            | 0.00198                |
| rs3745050 | 18         | 3732572    | G            | 0.01303                |
| rs11873533| 18         | 3732713    | T            | 0.01259                |
| rs1815957 | 18         | 3736382    | C            | 0.00975                |
| rs8085007 | 18         | 4014459    | A            | 0.00582                |
| rs1437622 | 18         | 4598852    | A            | 0.01030                |
| rs7243287 | 18         | 4646266    | G            | 0.00621                |
| rs11081144| 18         | 4696335    | T            | 0.01399                |
| rs1940848 | 18         | 4700778    | A            | 0.01265                |
| rs4797180 | 18         | 4720655    | A            | 0.01122                |
| rs8091193 | 18         | 4720882    | G            | 0.01601                |
| rs16948141| 18         | 5403815    | C            | 0.00062                |
| rs1719963 | 18         | 5541804    | A            | 0.00252                |
| rs8090286 | 18         | 5552155    | C            | 0.00737                |
| rs16949431| 18         | 6095967    | G            | 0.01332                |
| rs403814  | 18         | 6272593    | C            | 0.01250                |
| rs1452539 | 18         | 6277726    | G            | 0.01074                |
| rs3898848 | 18         | 6284119    | T            | 0.00802                |
| rs17502069| 18         | 6318558    | A            | 16.37100               |
| rs186884  | 18         | 6327489    | C            | 0.01505                |
| rs6506406 | 18         | 6522077    | C            | 0.01513                |
| rs1941509 | 18         | 6616372    | T            | 0.00963                |
| rs658121  | 18         | 6967044    | G            | 0.01439                |
| rs1790518 | 18         | 6967110    | A            | 0.00797                |
| rs686378  | 18         | 6968725    | G            | 0.00842                |
| rs607230  | 18         | 6970523    | A            | 0.00435                |
| SNP           | Chromosome | Position   | Allele | P-value |
|---------------|------------|------------|--------|---------|
| rs8094220     | 18         | 7205275    | G      | 0.00459 |
| rs9966939     | 18         | 7214416    | T      | 0.00996 |
| rs11081339    | 18         | 7476992    | A      | 0.00013 |
| rs616019      | 18         | 7733140    | A      | 0.00166 |
| rs727951      | 18         | 7830668    | C      | 0.01595 |
| rs7239786     | 18         | 7937846    | G      | 0.01571 |
| rs11081349    | 18         | 7967468    | C      | 0.01031 |
| rs663105      | 18         | 8116599    | G      | 0.01310 |
| rs687245      | 18         | 8128090    | C      | 0.00209 |
| rs64684       | 18         | 8346972    | A      | 0.01005 |
| rs12457756    | 18         | 8491545    | C      | 0.01057 |
| rs12454304    | 18         | 8493565    | T      | 0.00530 |
| rs17582905    | 18         | 8558109    | C      | 0.01371 |
| rs12956492    | 18         | 8940560    | T      | 0.00574 |
| rs9973176     | 18         | 9019558    | T      | 0.00308 |
| rs6506633     | 18         | 9019580    | T      | 0.01182 |
| rs4797356     | 18         | 9139437    | T      | 0.00252 |
| rs745218      | 18         | 9541028    | G      | 0.00588 |
| rs9946612     | 18         | 9567981    | A      | 0.00758 |
| rs1031555     | 18         | 9751234    | C      | 0.01190 |
| rs11662690    | 18         | 9825796    | C      | 0.01541 |
| rs580428      | 18         | 10013675   | T      | 0.00876 |
| rs16956115    | 18         | 10019871   | C      | 0.01456 |
| rs7245342     | 18         | 10042043   | T      | 0.01407 |
| rs7232833     | 18         | 10177407   | G      | 0.01214 |
| rs206614      | 18         | 10321765   | C      | 0.00329 |
| rs547668      | 18         | 10466821   | C      | 0.00540 |
| rs12455464    | 18         | 10891807   | C      | 0.00802 |
| rs264271      | 18         | 10914184   | T      | 0.01503 |
| rs264270      | 18         | 10915419   | T      | 0.00109 |
| rs264268      | 18         | 10916135   | G      | 0.01449 |
| rs264263      | 18         | 10918393   | A      | 0.01483 |
| rs3246        | 18         | 11001381   | C      | 0.00984 |
| rs1471671     | 18         | 11003889   | G      | 0.00283 |
| rs2625358     | 18         | 11010599   | C      | 0.01306 |
| rs2584749     | 18         | 11029431   | C      | 0.00082 |
| rs9961728     | 18         | 11099184   | G      | 0.01481 |
| rs9950681     | 18         | 11206305   | C      | 0.00809 |
| rs2161961     | 18         | 11764500   | A      | 0.00214 |
| rs9303749     | 18         | 11792991   | C      | 0.00398 |
| rs2849395     | 18         | 12034410   | A      | 0.01530 |
| rs34518007    | 18         | 12425306   | A      | 0.01436 |
| rs1864532     | 18         | 12559486   | C      | 0.00942 |
| rs2542151     | 18         | 12769947   | G      | 0.00646 |
| rs          | Chromosome | Position  | Allele | p-value |
|-------------|------------|-----------|--------|---------|
| rs2847297   | 18         | 12787694  | G      | 0.01229 |
| rs7234029   | 18         | 12867060  | T      | 0.01099 |
| rs12607152  | 18         | 13086403  | C      | 0.01452 |
| rs1284412   | 18         | 13542887  | G      | 0.01370 |
| rs8097240   | 18         | 13729959  | G      | 0.00304 |
| rs1942672   | 18         | 13736992  | A      | 0.00180 |
| rs11659762  | 18         | 13861956  | C      | 0.01560 |
| rs6505850   | 18         | 13839297  | A      | 0.01232 |
| rs948324    | 18         | 13842419  | A      | 0.00777 |
| rs12607152  | 18         | 13086403  | C      | 0.01452 |
| rs1284412   | 18         | 13542887  | G      | 0.01370 |
| rs8097240   | 18         | 13729959  | G      | 0.00304 |
| rs1942672   | 18         | 13736992  | A      | 0.00180 |
| rs11659762  | 18         | 13861956  | C      | 0.01560 |
| rs6505850   | 18         | 13839297  | A      | 0.01232 |
| rs948324    | 18         | 13842419  | A      | 0.00777 |
| rs12607152  | 18         | 13086403  | C      | 0.01452 |
| rs1284412   | 18         | 13542887  | G      | 0.01370 |
| rs8097240   | 18         | 13729959  | G      | 0.00304 |
| rs1942672   | 18         | 13736992  | A      | 0.00180 |
| rs11659762  | 18         | 13861956  | C      | 0.01560 |
| rs6505850   | 18         | 13839297  | A      | 0.01232 |
| rs948324    | 18         | 13842419  | A      | 0.00777 |
| rs12607152  | 18         | 13086403  | C      | 0.01452 |
| rs1284412   | 18         | 13542887  | G      | 0.01370 |
| rs8097240   | 18         | 13729959  | G      | 0.00304 |
| rs1942672   | 18         | 13736992  | A      | 0.00180 |
| rs11659762  | 18         | 13861956  | C      | 0.01560 |
| rs6505850   | 18         | 13839297  | A      | 0.01232 |
| rs948324    | 18         | 13842419  | A      | 0.00777 |
| rs12607152  | 18         | 13086403  | C      | 0.01452 |
| rs1284412   | 18         | 13542887  | G      | 0.01370 |
| rs8097240   | 18         | 13729959  | G      | 0.00304 |
| rs1942672   | 18         | 13736992  | A      | 0.00180 |
| rs11659762  | 18         | 13861956  | C      | 0.01560 |
| rs6505850   | 18         | 13839297  | A      | 0.01232 |
| rs948324    | 18         | 13842419  | A      | 0.00777 |
| rs12607152  | 18         | 13086403  | C      | 0.01452 |
| rs1284412   | 18         | 13542887  | G      | 0.01370 |
| rs8097240   | 18         | 13729959  | G      | 0.00304 |
| rs1942672   | 18         | 13736992  | A      | 0.00180 |
| rs11659762  | 18         | 13861956  | C      | 0.01560 |
| rs6505850   | 18         | 13839297  | A      | 0.01232 |
| rs948324    | 18         | 13842419  | A      | 0.00777 |
| rs12607152  | 18         | 13086403  | C      | 0.01452 |
| rs1284412   | 18         | 13542887  | G      | 0.01370 |
| rs8097240   | 18         | 13729959  | G      | 0.00304 |
| rs1942672   | 18         | 13736992  | A      | 0.00180 |
| rs11659762  | 18         | 13861956  | C      | 0.01560 |
| rs6505850   | 18         | 13839297  | A      | 0.01232 |
| rs948324    | 18         | 13842419  | A      | 0.00777 |
| rs12607152  | 18         | 13086403  | C      | 0.01452 |
| rs1284412   | 18         | 13542887  | G      | 0.01370 |
| rs8097240   | 18         | 13729959  | G      | 0.00304 |
| rs1942672   | 18         | 13736992  | A      | 0.00180 |
| rs11659762  | 18         | 13861956  | C      | 0.01560 |
| rs6505850   | 18         | 13839297  | A      | 0.01232 |
| rs948324    | 18         | 13842419  | A      | 0.00777 |
| rs12607152  | 18         | 13086403  | C      | 0.01452 |
| rs1284412   | 18         | 13542887  | G      | 0.01370 |
| rs          | Chromosome | Position   | Allele | p-value |
|------------|------------|------------|--------|---------|
| rs8093176  | 18         | 25784705   | A      | 0.01333 |
| rs1404432  | 18         | 25906310   | T      | 0.00783 |
| rs16948053 | 18         | 26265288   | A      | 0.00460 |
| rs41326652 | 18         | 27153029   | T      | 0.00353 |
| rs16962700 | 18         | 27947520   | G      | 0.00193 |
| rs10502585 | 18         | 28053311   | G      | 0.00620 |
| rs963993   | 18         | 28075158   | G      | 0.01268 |
| rs16962918 | 18         | 28095530   | T      | 0.00846 |
| rs16962971 | 18         | 28119201   | T      | 0.00747 |
| rs35779665 | 18         | 28211234   | A      | 0.00798 |
| rs10502599 | 18         | 28284188   | A      | 0.01212 |
| rs1426723  | 18         | 28394022   | T      | 0.01600 |
| rs12456916 | 18         | 28554107   | T      | 0.01037 |
| rs12456996 | 18         | 28554420   | T      | 0.01338 |
| rs12454409 | 18         | 28554509   | G      | 0.00443 |
| rs9675424  | 18         | 28943823   | A      | 0.00758 |
| rs7243667  | 18         | 29127683   | G      | 0.01299 |
| rs6507016  | 18         | 29181773   | A      | 0.01282 |
| rs6507040  | 18         | 29285278   | T      | 0.00724 |
| rs1389535  | 18         | 29564414   | G      | 0.00966 |
| rs9956918  | 18         | 29569876   | G      | 0.00453 |
| rs6507060  | 18         | 29576276   | T      | 0.01531 |
| rs9947894  | 18         | 29582718   | T      | 0.01377 |
| rs12958029 | 18         | 29642678   | A      | 0.01247 |
| rs12457802 | 18         | 29643863   | G      | 0.01506 |
| rs4435332  | 18         | 29920866   | A      | 0.01249 |
| rs16965408 | 18         | 30376497   | G      | 0.00997 |
| rs566408   | 18         | 30919759   | G      | 0.00877 |
| rs1944323  | 18         | 31933579   | C      | 0.00783 |
| rs729394   | 18         | 32200578   | G      | 0.00390 |
| rs894775   | 18         | 33124749   | G      | 0.00088 |
| rs1786793  | 18         | 33261753   | C      | 0.01649 |
| rs10853440 | 18         | 33312662   | T      | 0.00267 |
| rs16969649 | 18         | 33911399   | T      | 0.01515 |
| rs8091939  | 18         | 33914511   | A      | 0.00851 |
| rs979433   | 18         | 33924324   | C      | 0.00434 |
| rs12150709 | 18         | 33927540   | C      | 0.01618 |
| rs9952844  | 18         | 33941894   | A      | 0.00064 |
| rs9950528  | 18         | 34016459   | C      | 0.00708 |
| rs1145558  | 18         | 34208002   | C      | 0.00209 |
| rs11665456 | 18         | 34283162   | T      | 0.00443 |
| rs9304191  | 18         | 34283363   | A      | 0.01455 |
| rs                  | chrom | position         | allele | p-value |
|---------------------|-------|------------------|--------|---------|
| rs16970229          | 18    | 34287621         | T      | 0.01025 |
| rs867752            | 18    | 34290429         | T      | 0.01509 |
| rs16970360          | 18    | 34307641         | A      | 0.01182 |
| rs9947632           | 18    | 34316559         | G      | 0.01542 |
| rs890476            | 18    | 34356944         | A      | 0.01232 |
| rs11877551          | 18    | 34545845         | A      | 0.01182 |
| rs1269426           | 18    | 34677807         | G      | 0.00777 |
| rs1370193           | 18    | 36512481         | G      | 0.01548 |
| rs1941575           | 18    | 37078326         | T      | 0.00273 |
| rs11875967          | 18    | 37199733         | C      | 0.00961 |
| rs16974563          | 18    | 37214111         | A      | 0.01271 |
| rs346443            | 18    | 38200013         | A      | 0.00395 |
| rs12373388          | 18    | 38395988         | A      | 0.01309 |
| rs2878722           | 18    | 38437616         | A      | 0.01518 |
| rs7236977           | 18    | 38485488         | C      | 0.00100 |
| rs598658            | 18    | 38579747         | C      | 0.00070 |
| rs567325            | 18    | 38580258         | C      | 0.00228 |
| rs16977355          | 18    | 39014989         | G      | 0.00743 |
| rs672862            | 18    | 39276981         | G      | 0.00056 |
| rs16977675          | 18    | 39650092         | G      | 0.00391 |
| rs12458722          | 18    | 39650277         | A      | 0.00490 |
| rs1380834           | 18    | 39651882         | C      | 0.00498 |
| rs978490            | 18    | 40178035         | T      | 0.00371 |
| rs8087876           | 18    | 40269659         | G      | 0.01606 |
| rs16978001          | 18    | 40287441         | C      | 0.01216 |
| rs2063503           | 18    | 40291585         | C      | 0.00627 |
| rs7230479           | 18    | 40298960         | T      | 0.01017 |
| rs9957037           | 18    | 40302212         | A      | 0.01290 |
| rs2359894           | 18    | 40309270         | G      | 0.01666 |
| rs12605825          | 18    | 40322004         | A      | 0.00942 |
| rs12456054          | 18    | 40331423         | G      | 0.01496 |
| rs8084507           | 18    | 40340980         | T      | 0.01469 |
| rs16978185          | 18    | 40658036         | G      | 0.00555 |
| rs7228870           | 18    | 40779809         | C      | 0.00678 |
| rs537380            | 18    | 41567307         | T      | 0.00504 |
| rs7235217           | 18    | 42238423         | G      | 0.01559 |
| rs11873913          | 18    | 42270136         | A      | 0.00037 |
| rs17768724          | 18    | 42399301         | G      | 0.01529 |
| rs41471844          | 18    | 42545438         | C      | 0.00739 |
| rs8091926           | 18    | 43305157         | A      | 0.00082 |
| rs16954613          | 18    | 43335567         | A      | 0.01097 |
| rs4940159           | 18    | 43762177         | C      | 0.00438 |
| rs7504329           | 18    | 43860140         | A      | 0.00669 |
| rs6507802           | 18    | 43865465         | G      | 0.01008 |
| SNP         | Chromosome | Base Position | Minor Allele | Minor Allele Frequency |
|-------------|------------|---------------|--------------|------------------------|
| rs1873128   | 18         | 44195305      | C            | 0.01414                |
| rs4939776   | 18         | 44233865      | G            | 0.00728                |
| rs5029382   | 18         | 44235524      | A            | 0.00616                |
| rs1512177   | 18         | 44272557      | G            | 0.01407                |
| rs1564591   | 18         | 44533402      | A            | 0.01407                |
| rs8087872   | 18         | 44546971      | G            | 0.00851                |
| rs1994559   | 18         | 44586356      | A            | 0.01364                |
| rs1512177   | 18         | 44272557      | C            | 0.00668                |
| rs4939846   | 18         | 44970083      | A            | 0.00603                |
| rs11661691  | 18         | 45024184      | C            | 0.00731                |
| rs11662738  | 18         | 45027558      | A            | 0.01568                |
| rs17660456  | 18         | 45913758      | C            | 0.00668                |
| rs1511155   | 18         | 45971240      | A            | 0.01204                |
| rs8085254   | 18         | 46036147      | T            | 0.01246                |
| rs2082347   | 18         | 47292109      | G            | 0.01613                |
| rs7231303   | 18         | 47317269      | A            | 0.00798                |
| rs7227533   | 18         | 47836342      | T            | 0.01078                |
| rs4423510   | 18         | 47962726      | A            | 0.00526                |
| rs12456856  | 18         | 47984154      | C            | 0.00296                |
| rs3910788   | 18         | 48100001      | G            | 0.00940                |
| rs17754011  | 18         | 48125662      | A            | 0.00715                |
| rs7240312   | 18         | 48157360      | A            | 0.01289                |
| rs948590    | 18         | 48378926      | A            | 0.00913                |
| rs4452042   | 18         | 48528882      | A            | 0.00373                |
| rs41331848  | 18         | 48606187      | G            | 0.00556                |
| rs7235008   | 18         | 48886811      | T            | 0.01316                |
| rs16956399  | 18         | 49015687      | A            | 0.00326                |
| rs4569360   | 18         | 49703051      | G            | 0.01126                |
| rs1978357   | 18         | 50701059      | T            | 0.00926                |
| rs784237    | 18         | 51567112      | T            | 0.00522                |
| rs17203781  | 18         | 52003906      | A            | 0.00798                |
| rs1789596   | 18         | 52003947      | G            | 0.00546                |
| rs12455746  | 18         | 52175640      | T            | 0.01594                |
| rs620024    | 18         | 52367467      | T            | 0.00052                |
| rs7237084   | 18         | 52746016      | G            | 0.00051                |
| rs9954313   | 18         | 52783500      | G            | 0.01281                |
| rs2849463   | 18         | 53205665      | C            | 0.00406                |
| rs4940804   | 18         | 53313517      | T            | 0.00702                |
| rs7235134   | 18         | 53340294      | G            | 0.01396                |
| rs7243988   | 18         | 53398452      | A            | 0.01625                |
| rs17759803  | 18         | 53666463      | G            | 0.00717                |
| rs3897751   | 18         | 53683532      | C            | 0.00472                |
| rs7232704   | 18         | 53739262      | C            | 0.00195                |
| rs12960285  | 18         | 53806455      | C            | 0.01112                |
| SNP       | Chromosome | Position | Genotype | p-value |
|-----------|------------|----------|----------|---------|
| rs12960965 | 18         | 53973820 | G        | 0.00696 |
| rs486117   | 18         | 53982695 | G        | 0.00474 |
| rs8086176  | 18         | 54618100 | G        | 0.01330 |
| rs12969520 | 18         | 54694937 | C        | 0.01440 |
| rs17694691 | 18         | 54697058 | C        | 0.01276 |
| rs11872224 | 18         | 54730364 | A        | 0.00941 |
| rs922048   | 18         | 55027366 | A        | 0.00474 |
| rs2048884  | 18         | 55054133 | T        | 0.00168 |
| rs8088790  | 18         | 55230517 | G        | 0.01528 |
| rs9319950  | 18         | 55238263 | A        | 0.01358 |
| rs7230906  | 18         | 55249616 | G        | 0.00937 |
| rs632248   | 18         | 55306738 | A        | 0.01281 |
| rs17700926 | 18         | 56182895 | C        | 0.00643 |
| rs520432   | 18         | 56325505 | T        | 0.01015 |
| rs881474   | 18         | 56338128 | T        | 0.00718 |
| rs17067050 | 18         | 56362278 | C        | 0.00319 |
| rs579054   | 18         | 56374311 | G        | 0.00001 |
| rs12455952 | 18         | 56991498 | T        | 0.00982 |
| rs17068170 | 18         | 57145389 | C        | 0.00171 |
| rs2159595  | 18         | 57231116 | C        | 0.00546 |
| rs9783862  | 18         | 57350414 | T        | 0.00776 |
| rs11875000 | 18         | 57357460 | C        | 0.01555 |
| rs10469239 | 18         | 57551453 | G        | 0.01041 |
| rs9960910  | 18         | 57623326 | A        | 0.00303 |
| rs9963722  | 18         | 57627449 | C        | 0.01547 |
| rs948783   | 18         | 57733482 | G        | 0.00134 |
| rs2116334  | 18         | 57798480 | A        | 0.00018 |
| rs1346949  | 18         | 57798816 | A        | 0.01555 |
| rs1431583  | 18         | 57811523 | A        | 0.00521 |
| rs1431584  | 18         | 57811870 | C        | 0.01643 |
| rs1030582  | 18         | 57886440 | T        | 0.00140 |
| rs17634631 | 18         | 57886973 | T        | 0.01116 |
| rs9319997  | 18         | 57925017 | C        | 0.00471 |
| rs17641823 | 18         | 57927708 | T        | 0.00716 |
| rs17696826 | 18         | 58092234 | G        | 0.00439 |
| rs2980973  | 18         | 58228744 | T        | 0.01186 |
| rs17729447 | 18         | 58317240 | C        | 0.00596 |
| rs2053600  | 18         | 58586761 | A        | 0.00516 |
| rs611263   | 18         | 59441237 | G        | 0.01182 |
| rs1522725  | 18         | 59555590 | A        | 0.00265 |
| rs4941238  | 18         | 59855507 | A        | 0.00290 |
| rs4493166  | 18         | 60000627 | C        | 0.00611 |
| rs          | Chromosome | Position   | Minor allele | Minor allele frequency |
|------------|------------|------------|--------------|------------------------|
| rs778771   | 18         | 60600790   | G            | 0.00101                |
| rs9675615  | 18         | 60637216   | A            | 0.00732                |
| rs7244664  | 18         | 61626782   | C            | 0.01564                |
| rs1994230  | 18         | 61627079   | A            | 0.00994                |
| rs205084   | 18         | 61736852   | G            | 0.01627                |
| rs41391050 | 18         | 61791104   | A            | 0.00361                |
| rs4283324  | 18         | 62246545   | T            | 0.01238                |
| rs7244664  | 18         | 62470551   | A            | 0.01018                |
| rs778771   | 18         | 63405367   | C            | 0.00658                |
| rs519360   | 18         | 63641058   | T            | 0.00846                |
| rs2000748  | 18         | 64266988   | A            | 0.01131                |
| rs6535775  | 18         | 64471274   | C            | 0.00578                |
| rs1893438  | 18         | 64662990   | G            | 0.01531                |
| rs1539896  | 18         | 64663123   | G            | 0.01468                |
| rs8099382  | 18         | 64696866   | T            | 0.01233                |
| rs1154907  | 18         | 65030427   | A            | 0.01260                |
| rs4513200  | 18         | 65399549   | G            | 11.50100               |
| rs4605265  | 18         | 65406612   | C            | 0.00653                |
| rs8088698  | 18         | 66074263   | G            | 0.00248                |
| rs1510045  | 18         | 66498522   | C            | 0.00912                |
| rs2221605  | 18         | 66722094   | T            | 0.00901                |
| rs11151267 | 18         | 66817893   | A            | 0.01082                |
| rs17181300 | 18         | 66933645   | G            | 0.00264                |
| rs8098181  | 18         | 67014919   | C            | 0.00088                |
| rs4599012  | 18         | 67022529   | T            | 0.00747                |
| rs1727846  | 18         | 67023434   | T            | 0.00284                |
| rs17193525 | 18         | 67045771   | C            | 0.00328                |
| rs17281295 | 18         | 67097075   | C            | 0.01063                |
| rs7229385  | 18         | 67508569   | C            | 0.01433                |
| rs8094687  | 18         | 67591733   | T            | 0.00650                |
| rs17225992 | 18         | 67593046   | A            | 0.00980                |
| rs8083283  | 18         | 68150905   | A            | 0.00510                |
| rs11151792 | 18         | 68555607   | A            | 0.00033                |
| rs2469032  | 18         | 68900356   | A            | 0.00938                |
| rs11661950 | 18         | 68926719   | T            | 0.00563                |
| rs11661997 | 18         | 68926813   | G            | 0.00377                |
| rs1503024  | 18         | 68942375   | A            | 0.01223                |
| rs17751492 | 18         | 69259633   | G            | 0.00376                |
| rs2703496  | 18         | 69452130   | T            | 0.01250                |
| rs8095367  | 18         | 69473486   | G            | 0.00956                |
| rs4892122  | 18         | 69473702   | C            | 0.01072                |
| rs17763239 | 18         | 69473773   | A            | 0.00504                |
| rs17763263 | 18         | 69473889   | T            | 0.00284                |
| SNP          | Chromosome | Position   | Allele | Minor Allele Frequency |
|--------------|------------|------------|--------|------------------------|
| rs6566752    | 18         | 69478734   | T      | 0.00970                |
| rs8092542    | 18         | 69498117   | T      | 0.00926                |
| rs9953978    | 18         | 69498407   | C      | 0.00214                |
| rs1560435    | 18         | 69743651   | G      | 0.00592                |
| rs4892163    | 18         | 69776553   | A      | 0.00836                |
| rs8087590    | 18         | 69885704   | G      | 0.00486                |
| rs12953403   | 18         | 70015084   | T      | 0.00727                |
| rs8182439    | 18         | 70026851   | A      | 0.00772                |
| rs7236071    | 18         | 70143274   | C      | 0.01288                |
| rs1560435    | 18         | 70202402   | C      | 0.00703                |
| rs2278154    | 18         | 7054762    | G      | 0.00350                |
| rs2346061    | 18         | 70315112   | A      | 0.00718                |
| rs9950997    | 18         | 7023637    | G      | 0.01137                |
| rs9949463    | 18         | 71076264   | C      | 0.00177                |
| rs17211841   | 18         | 7133707    | G      | 0.00331                |
| rs1460280    | 18         | 71628170   | G      | 0.01346                |
| rs11659458   | 18         | 71629102   | G      | 0.01108                |
| rs7239549    | 18         | 71632405   | G      | 0.00738                |
| rs4387675    | 18         | 71634911   | C      | 0.00343                |
| rs2187254    | 18         | 71635578   | A      | 0.01147                |
| rs7243537    | 18         | 71846998   | C      | 0.01223                |
| rs11150924   | 18         | 71852221   | A      | 0.01451                |
| rs17058719   | 18         | 71869249   | T      | 0.00306                |
| rs724880     | 18         | 71944272   | C      | 0.00249                |
| rs12969990   | 18         | 71982132   | A      | 0.00973                |
| rs10514206   | 18         | 71984454   | T      | 0.01236                |
| rs11875775   | 18         | 71985061   | A      | 0.01590                |
| rs7226718    | 18         | 72105439   | G      | 0.00242                |
| rs17059667   | 18         | 72466629   | A      | 0.01398                |
| rs8083046    | 18         | 72603831   | G      | 0.00362                |
| rs4890871    | 18         | 72613722   | T      | 0.01316                |
| rs2406342    | 18         | 72617268   | T      | 0.00530                |
| rs8088596    | 18         | 72620941   | C      | 0.01391                |
| rs1789114    | 18         | 72985760   | T      | 0.00572                |
| rs2051408    | 18         | 72989671   | G      | 0.00527                |
| rs1789101    | 18         | 72995306   | A      | 0.00925                |
| rs165152     | 18         | 73477482   | T      | 0.01025                |
| rs4890980    | 18         | 73493301   | G      | 0.01608                |
| rs1509794    | 18         | 73545515   | C      | 0.00772                |
| rs1011233    | 18         | 74416249   | T      | 0.01045                |
| rs11081641   | 18         | 74518948   | G      | 0.01058                |
| rs2931057    | 18         | 74530754   | C      | 0.00304                |
| rs4799232    | 18         | 74706295   | A      | 0.00887                |
| rs6506808    | 18         | 76001711   | C      | 0.01480                |
| SNP   | Chromosome | Position | Allele | p-value |
|-------|------------|----------|--------|---------|
| rs2030336 | 18 | 76037763 | T | 0.01531 |
| rs6506819 | 18 | 76103230 | A | 0.00245 |
| rs12456851 | 18 | 76115554 | G | 0.01132 |
| rs11084928 | 19 | 228776 | A | 0.01251 |
| rs4919850 | 19 | 507632 | C | 0.01059 |
| rs10415976 | 19 | 892603 | T | 0.00345 |
| rs8103188 | 19 | 1054465 | A | 0.00920 |
| rs12456851 | 19 | 1867450 | G | 0.01180 |
| rs10415976 | 19 | 2097066 | C | 0.01070 |
| rs8109669 | 19 | 2364228 | T | 0.00829 |
| rs10424034 | 19 | 2533154 | T | 0.00961 |
| rs4806891 | 19 | 2898152 | A | 0.00700 |
| rs4807470 | 19 | 3394470 | A | 0.00156 |
| rs8112148 | 19 | 5524344 | C | 0.00816 |
| rs3097891 | 19 | 5694824 | A | 0.00509 |
| rs3787056 | 19 | 6193806 | G | 0.00801 |
| rs2241394 | 19 | 6636230 | G | 0.00044 |
| rs6512109 | 19 | 9380453 | A | 0.00043 |
| rs10439163 | 19 | 10506495 | C | 0.00780 |
| rs435368 | 19 | 11745524 | A | 0.00769 |
| rs799193 | 19 | 11752003 | T | 0.00752 |
| rs448446 | 19 | 11803254 | G | 0.01262 |
| rs12052059 | 19 | 13216068 | G | 0.0061 |
| rs12611029 | 19 | 13216633 | G | 0.00516 |
| rs2302080 | 19 | 13217380 | G | 0.00544 |
| rs1547984 | 19 | 13474965 | A | 0.01661 |
| rs10409198 | 19 | 13749347 | G | 0.01540 |
| rs682765 | 19 | 15562078 | T | 0.00490 |
| rs2733762 | 19 | 15638409 | T | 0.01576 |
| rs4808415 | 19 | 15901766 | A | 0.00408 |
| rs73916 | 19 | 16717864 | T | 0.00314 |
| rs10413542 | 19 | 17649940 | C | 0.01487 |
| rs432392 | 19 | 18016041 | C | 0.00348 |
| rs11086101 | 19 | 18228816 | A | 0.01029 |
| rs17711565 | 19 | 18268643 | T | 0.00953 |
| rs2057649 | 19 | 18550830 | G | 0.01473 |
| rs6511018 | 19 | 19047705 | G | 0.01052 |
| rs11668620 | 19 | 19079490 | C | 0.00820 |
| rs1050544 | 19 | 19148901 | G | 0.01219 |
| rs3787040 | 19 | 19158292 | G | 0.01193 |
| rs2011503 | 19 | 19304986 | T | 0.00199 |
| rs247796 | 19 | 19717139 | A | 0.01664 |
| SNP     | Chromosome | Position | Allele  | P-value |
|---------|------------|----------|---------|---------|
| rs10411195 | 19 | 19897176 | T | 0.00505 |
| rs431157   | 19 | 20806839 | A | 0.01127 |
| rs9304978  | 19 | 20949730 | A | 0.00719 |
| rs7254957  | 19 | 21182564 | T | 0.00921 |
| rs279807   | 19 | 21257662 | T | 0.01560 |
| rs8104675  | 19 | 21683783 | A | 0.01575 |
| rs16999432 | 19 | 22564487 | T | 0.01589 |
| rs12973782 | 19 | 22696967 | C | 0.00507 |
| rs12980129 | 19 | 22700751 | C | 0.00602 |
| rs2195962  | 19 | 23531320 | C | 0.00825 |
| rs2217662  | 19 | 23534946 | A | 0.01662 |
| rs10417223 | 19 | 23620564 | G | 0.00008 |
| rs12462134 | 19 | 24042668 | T | 0.00665 |
| rs8111283  | 19 | 33005870 | A | 0.01007 |
| rs12976900 | 19 | 34128849 | G | 0.01226 |
| rs12975753 | 19 | 34193380 | T | 10.45500 |
| rs17686149 | 19 | 34395197 | T | 0.00784 |
| rs12460892 | 19 | 34456548 | A | 0.00783 |
| rs6509333  | 19 | 34468249 | T | 0.01212 |
| rs759632   | 19 | 34472578 | T | 0.01314 |
| rs10406799 | 19 | 34475403 | T | 0.00814 |
| rs11083894 | 19 | 34476307 | C | 0.00982 |
| rs17624382 | 19 | 34480470 | C | 0.01303 |
| rs4805419  | 19 | 3465208 | T | 0.00970 |
| rs16963567 | 19 | 35147120 | T | 0.00782 |
| rs1125867  | 19 | 35547491 | T | 0.01448 |
| rs4805632  | 19 | 36034752 | G | 0.00351 |
| rs8107562  | 19 | 36363983 | A | 0.00818 |
| rs1353534  | 19 | 36372570 | T | 0.01440 |
| rs1353535  | 19 | 36372820 | T | 0.00110 |
| rs8109968  | 19 | 36398251 | G | 0.00370 |
| rs7250559  | 19 | 36815751 | G | 0.00835 |
| rs10426491 | 19 | 3734862 | A | 0.00331 |
| rs4805724  | 19 | 37292850 | A | 0.00887 |
| rs7251402  | 19 | 37418474 | C | 0.00855 |
| rs2287680  | 19 | 38300406 | A | 0.00851 |
| rs1428669  | 19 | 38762105 | C | 0.00222 |
| rs7255249  | 19 | 38786025 | C | 0.01504 |
| rs4805930  | 19 | 38905294 | C | 0.00856 |
| rs8109447  | 19 | 39224676 | G | 0.01653 |
| rs4806003  | 19 | 39443146 | G | 0.01553 |
| rs10419491 | 19 | 39874797 | C | 0.01014 |
| rs4372809  | 19 | 39908149 | A | 0.00711 |
| rs2546024  | 19 | 40143170 | G | 0.00480 |
| SNP          | Chromosome | Position   | Allele | Minor Allele Frequency |
|--------------|------------|------------|--------|------------------------|
| rs16970293   | 19         | 40590481   | C      | 0.00761                |
| rs4805131    | 19         | 40789137   | T      | 0.01411                |
| rs10500279   | 19         | 43726908   | G      | 0.01636                |
| rs2960321    | 19         | 43740003   | A      | 0.01654                |
| rs6508826    | 19         | 44117562   | C      | 0.00676                |
| rs1034867    | 19         | 44910784   | C      | 0.00151                |
| rs3922314    | 19         | 44958527   | C      | 0.00121                |
| rs591505     | 19         | 45377815   | T      | 0.01060                |
| rs10407348   | 19         | 46174582   | C      | 0.01457                |
| rs1195296    | 19         | 46997883   | A      | 0.00599                |
| rs2854508    | 19         | 47368321   | C      | 0.00280                |
| rs2191566    | 19         | 49744084   | A      | 0.01073                |
| rs7251950    | 19         | 49802255   | G      | 0.01415                |
| rs371657     | 19         | 51629571   | C      | 0.00726                |
| rs11673207   | 19         | 52486521   | G      | 0.00836                |
| rs274876     | 19         | 53372780   | T      | 0.00914                |
| rs2638283    | 19         | 53932963   | A      | 0.00564                |
| rs12104272   | 19         | 54839864   | A      | 0.01593                |
| rs3170545    | 19         | 55128527   | C      | 0.00255                |
| rs11883067   | 19         | 55232283   | T      | 0.00866                |
| rs846885     | 19         | 56077214   | G      | 0.00722                |
| rs1122466    | 19         | 56183276   | G      | 0.01093                |
| rs3826656    | 19         | 56418425   | G      | 0.00909                |
| rs1551158    | 19         | 56771813   | A      | 0.00498                |
| rs4802919    | 19         | 57490680   | G      | 0.01375                |
| rs10426347   | 19         | 58604054   | C      | 0.00595                |
| rs10422163   | 19         | 58659614   | A      | 0.00427                |
| rs10411772   | 19         | 58740763   | C      | 0.01306                |
| rs16960015   | 19         | 58741116   | T      | 0.00281                |
| rs953751     | 19         | 58746598   | T      | 0.01196                |
| rs11672056   | 19         | 59679872   | C      | 0.00695                |
| rs41514951   | 19         | 59681854   | G      | 0.01194                |
| rs1749296    | 19         | 59892210   | T      | 0.00725                |
| rs11671922   | 19         | 60227101   | A      | 0.00826                |
| rs4801624    | 19         | 60957621   | A      | 0.00592                |
| rs10426177   | 19         | 60960908   | T      | 0.01182                |
| rs6509975    | 19         | 61165272   | G      | 0.01292                |
| rs379192     | 19         | 61262009   | T      | 0.01342                |
| rs12709959   | 19         | 61660126   | A      | 0.01271                |
| SNP        | Chromosome | Position  | Allele | P-Value |
|------------|------------|-----------|--------|---------|
| rs10405702 | 19         | 61760798  | G      | 0.01464 |
| rs9967637  | 19         | 61942710  | C      | 0.00438 |
| rs6510070  | 19         | 62653424  | T      | 0.00252 |
| rs7247474  | 19         | 62658274  | A      | 0.01207 |
| rs6510081  | 19         | 62689746  | C      | 0.01366 |
| rs10407412 | 19         | 62771618  | G      | 0.01500 |
| rs10414608 | 19         | 62773680  | G      | 0.00778 |
| rs10405702 | 19         | 62784856  | T      | 0.00371 |
| rs6052239  | 20         | 401461    | G      | 0.01179 |
| rs362630   | 20         | 49878     | T      | 0.00622 |
| rs2317023  | 20         | 66774     | A      | 0.01235 |
| rs6045646  | 20         | 1888145   | T      | 0.00076 |
| rs16983952 | 20         | 2262610   | T      | 0.01263 |
| rs2422740  | 20         | 2302886   | A      | 0.00517 |
| rs2422741  | 20         | 2303387   | T      | 0.01476 |
| rs2038246  | 20         | 2575370   | T      | 0.00304 |
| rs8125955  | 20         | 2967957   | T      | 0.00249 |
| rs6138990  | 20         | 2970618   | A      | 0.00583 |
| rs4813669  | 20         | 4040860   | T      | 0.01239 |
| rs1765003  | 20         | 4083849   | A      | 0.00015 |
| rs297690   | 20         | 4374656   | G      | 0.00506 |
| rs6139427  | 20         | 4380150   | G      | 0.00060 |
| rs2245220  | 20         | 4653718   | T      | 0.01002 |
| rs2422975  | 20         | 4710869   | G      | 0.00023 |
| rs16990301 | 20         | 4783415   | A      | 0.01182 |
| rs7273837  | 20         | 5237481   | C      | 0.00110 |
| rs6085118  | 20         | 5274616   | C      | 0.01607 |
| rs10485491 | 20         | 5376663   | G      | 0.01115 |
| rs805730   | 20         | 5647265   | A      | 0.00047 |
| rs1287079  | 20         | 5821144   | T      | 0.00216 |
| rs6054006  | 20         | 6158644   | A      | 0.01050 |
| rs6038399  | 20         | 6187082   | A      | 0.01050 |
| rs6117259  | 20         | 6368731   | G      | 0.00120 |
| rs6085671  | 20         | 6673829   | C      | 0.01215 |
| rs6140264  | 20         | 7324354   | C      | 0.00584 |
| rs6055172  | 20         | 7539005   | G      | 0.00686 |
| rs6133443  | 20         | 7539377   | A      | 0.00077 |
| rs17403161 | 20         | 7578428   | T      | 0.01339 |
| rs729944   | 20         | 7636055   | T      | 0.00267 |
| rs6055889  | 20         | 8465505   | A      | 0.00876 |
| rs6056523  | 20         | 9240176   | T      | 0.01259 |
| rs6086852  | 20         | 9281616   | C      | 0.01245 |
| rs6056690  | 20         | 9475353   | T      | 0.01517 |
| rs747996   | 20         | 9576822   | C      | 0.00630 |
| SNP        | Chrom | Position  | Allele | P-value   |
|------------|-------|-----------|--------|-----------|
| rs2092382  | 20    | 9727927   | G      | 0.00386   |
| rs6118852  | 20    | 9935409   | A      | 0.00120   |
| rs2327262  | 20    | 10117643  | C      | 0.00061   |
| rs363029   | 20    | 10165497  | T      | 0.00844   |
| rs2327267  | 20    | 10166376  | A      | 0.00956   |
| rs363035   | 20    | 10166958  | A      | 0.01131   |
| rs6077844  | 20    | 10527996  | C      | 0.01602   |
| rs6074184  | 20    | 10690290  | A      | 0.00094   |
| rs6078023  | 20    | 10966958  | A      | 0.00609   |
| rs209939   | 20    | 10974397  | C      | 0.01117   |
| rs2423542  | 20    | 11042509  | A      | 0.00872   |
| rs6040446  | 20    | 11156822  | A      | 0.01311   |
| rs2327367  | 20    | 11180291  | T      | 0.00731   |
| rs6040477  | 20    | 11180689  | G      | 0.01388   |
| rs8119263  | 20    | 11281035  | C      | 0.00077   |
| rs2180286  | 20    | 11445272  | C      | 0.00682   |
| rs6104763  | 20    | 11448108  | T      | 0.01282   |
| rs714235   | 20    | 11538160  | C      | 0.01377   |
| rs2223712  | 20    | 11903659  | G      | 0.00248   |
| rs972047   | 20    | 12333222  | A      | 0.00089   |
| rs6078631  | 20    | 12429269  | C      | 0.01615   |
| rs17225893 | 20    | 12429805  | G      | 0.01182   |
| rs10485757 | 20    | 12438269  | G      | 0.00525   |
| rs6041427  | 20    | 12453962  | G      | 0.01396   |
| rs6041542  | 20    | 12609944  | A      | 0.01281   |
| rs6109532  | 20    | 12671173  | G      | 0.00761   |
| rs646334   | 20    | 12939639  | T      | 0.01223   |
| rs3910137  | 20    | 13026275  | C      | 0.00559   |
| rs1321255  | 20    | 13087821  | T      | 0.00222   |
| rs6033633  | 20    | 13089809  | G      | 0.00365   |
| rs6042367  | 20    | 13736172  | G      | 0.01068   |
| rs10485768 | 20    | 13746549  | T      | 0.01568   |
| rs2260930  | 20    | 13896093  | A      | 0.01204   |
| rs2208453  | 20    | 14210828  | T      | 0.00700   |
| rs6079463  | 20    | 14423757  | C      | 0.00894   |
| rs459322   | 20    | 15085117  | G      | 0.00488   |
| rs175311   | 20    | 15171662  | C      | 0.00455   |
| rs13039585 | 20    | 15343353  | T      | 0.01408   |
| rs11698317 | 20    | 15376111  | G      | 0.00511   |
| rs1816000  | 20    | 15462094  | A      | 0.00445   |
| rs6135542  | 20    | 15733801  | T      | 0.00773   |
| rs16996627 | 20    | 15756549  | A      | 0.01413   |
| rs6080069  | 20    | 15905780  | G      | 0.00035   |
| rs7273081  | 20    | 16074098  | A      | 0.00009   |
| ID       | Chromosome | Position | Allele | P-value |
|----------|------------|----------|--------|---------|
| rs16997388 | 20         | 16163763 | G      | 0.00934 |
| rs6043844  | 20         | 16199668 | G      | 0.00884 |
| rs4814533  | 20         | 16597513 | A      | 0.00205 |
| rs6044450  | 20         | 16788158 | T      | 0.00046 |
| rs6034740  | 20         | 17034061 | T      | 0.00553 |
| rs761018   | 20         | 17405674 | T      | 0.00578 |
| rs6044845  | 20         | 17413213 | C      | 0.01022 |
| rs6044450  | 20         | 17419061 | A      | 0.00458 |
| rs6080801  | 20         | 17652776 | G      | 0.00697 |
| rs6034901  | 20         | 17697818 | T      | 0.00215 |
| rs1076688  | 20         | 17828260 | C      | 0.00981 |
| rs6045072  | 20         | 17827676 | G      | 0.00521 |
| rs6035066  | 20         | 18464588 | G      | 0.00226 |
| rs6046024  | 20         | 19294184 | C      | 0.01563 |
| rs6075513  | 20         | 19396935 | T      | 0.00430 |
| rs6046236  | 20         | 19596143 | A      | 0.00050 |
| rs3828002  | 20         | 19650049 | T      | 0.00358 |
| rs6046295  | 20         | 19675038 | G      | 0.00339 |
| rs17371935 | 20         | 19754241 | G      | 0.01183 |
| rs6046528  | 20         | 19932467 | G      | 0.00881 |
| rs200184   | 20         | 19999890 | T      | 0.01179 |
| rs6136938  | 20         | 20069992 | A      | 0.01423 |
| rs1000269  | 20         | 20246483 | G      | 0.01328 |
| rs6046790  | 20         | 20251376 | G      | 0.01469 |
| rs17735720 | 20         | 20888051 | C      | 0.01593 |
| rs6137189  | 20         | 20890571 | G      | 0.01657 |
| rs1024207  | 20         | 21539481 | A      | 0.00074 |
| rs6082475  | 20         | 21567273 | G      | 0.01643 |
| rs2424400  | 20         | 21662807 | A      | 0.00676 |
| rs8122229  | 20         | 21772282 | G      | 0.00854 |
| rs2328682  | 20         | 21866288 | T      | 0.01577 |
| rs201149   | 20         | 22038387 | T      | 0.00237 |
| rs804516   | 20         | 22063729 | T      | 0.01390 |
| rs6048024  | 20         | 22256842 | C      | 0.00530 |
| rs6048084  | 20         | 22364829 | A      | 0.01421 |
| rs6048105  | 20         | 22384129 | G      | 0.00906 |
| rs6036119  | 20         | 22389124 | G      | 0.01397 |
| rs2404492  | 20         | 22723615 | A      | 0.00678 |
| rs926745   | 20         | 22765120 | C      | 0.00333 |
| rs6083237  | 20         | 23656965 | T      | 0.01189 |
| rs2071443  | 20         | 23807753 | A      | 0.01206 |
| rs6049299  | 20         | 23931042 | T      | 0.00793 |
| rs858141   | 20         | 24009950 | C      | 0.00995 |
| SNP       | Chromosome | Position   | Allele | p-value |
|-----------|------------|------------|--------|---------|
| rs6036642 | 20         | 24027492   | C      | 0.00594 |
| rs6049453 | 20         | 24088355   | T      | 0.01105 |
| rs6049471 | 20         | 24102710   | T      | 0.01476 |
| rs1116594 | 20         | 24107081   | C      | 0.00869 |
| rs6049473 | 20         | 24107265   | C      | 0.01022 |
| rs2749424 | 20         | 24135337   | C      | 0.00984 |
| rs6049811 | 20         | 24182028   | T      | 0.01581 |
| rs2387577 | 20         | 24996940   | G      | 0.01529 |
| rs4815368 | 20         | 25009308   | A      | 0.00362 |
| rs2387578 | 20         | 25044494   | G      | 0.01506 |
| rs6119442 | 20         | 29548076   | G      | 0.00739 |
| rs4911252 | 20         | 30793776   | G      | 0.01064 |
| rs2424895 | 20         | 30799639   | T      | 0.01194 |
| rs6087449 | 20         | 31184291   | T      | 0.00949 |
| rs611903  | 20         | 31313082   | G      | 0.01240 |
| rs608174  | 20         | 31368333   | G      | 0.00317 |
| rs4911146 | 20         | 32103708   | C      | 0.01269 |
| rs6087625 | 20         | 32806138   | A      | 0.00012 |
| rs6119536 | 20         | 32913702   | G      | 0.00752 |
| rs1624888 | 20         | 35182308   | G      | 0.01644 |
| rs2076398 | 20         | 35261096   | T      | 0.00271 |
| rs2272950 | 20         | 35271786   | A      | 0.00653 |
| rs6020113 | 20         | 35736459   | G      | 0.01612 |
| rs16986890| 20         | 35759937   | A      | 0.00441 |
| rs6020846 | 20         | 35839081   | T      | 0.00793 |
| rs4809876 | 20         | 35936758   | G      | 0.01230 |
| rs6092006 | 20         | 36242583   | A      | 0.01256 |
| rs1474669 | 20         | 36250565   | T      | 0.00360 |
| rs877600  | 20         | 36296454   | C      | 0.00265 |
| rs6064334 | 20         | 36353805   | G      | 0.00662 |
| rs4287822 | 20         | 36354924   | A      | 0.01016 |
| rs6100336 | 20         | 36652968   | A      | 0.00572 |
| rs2179318 | 20         | 37060677   | C      | 0.01556 |
| rs6028332 | 20         | 37270725   | A      | 0.01508 |
| rs6124140 | 20         | 37396596   | T      | 0.01095 |
| rs805944  | 20         | 37695132   | G      | 0.00833 |
| rs211883  | 20         | 37845109   | T      | 0.01627 |
| rs6065202 | 20         | 38144694   | T      | 0.01041 |
| rs6101972 | 20         | 38470085   | T      | 0.00584 |
| rs2207131 | 20         | 38580350   | G      | 0.01527 |
| rs6102017 | 20         | 38588283   | C      | 0.01325 |
| SNP     | Chromosome | Position | Allele | p-value |
|---------|------------|----------|--------|---------|
| rs11908206 | 20        | 38600118 | T      | 0.01651 |
| rs6029178  | 20        | 38611971 | G      | 0.01405 |
| rs17820549 | 20        | 38656901 | A      | 0.00398 |
| rs761370   | 20        | 38735071 | T      | 0.00029 |
| rs6029669  | 20        | 39480359 | C      | 0.01639 |
| rs6093496  | 20        | 39629468 | G      | 0.00303 |
| rs17820549 | 20        | 38656901 | A      | 0.00398 |
| rs761370   | 20        | 38735071 | T      | 0.00029 |
| rs1883377  | 20        | 40234897 | A      | 0.00486 |
| rs6093598  | 20        | 40291139 | C      | 0.01461 |
| rs6030070  | 20        | 40292402 | T      | 0.01396 |
| rs6030071  | 20        | 40292464 | C      | 0.00498 |
| rs1014757  | 20        | 40295037 | C      | 0.00173 |
| rs6030076  | 20        | 40296596 | A      | 0.00429 |
| rs6030096  | 20        | 40321219 | A      | 0.00379 |
| rs6030124  | 20        | 40371421 | G      | 0.00753 |
| rs6030274  | 20        | 40551509 | T      | 0.01256 |
| rs6030456  | 20        | 40808754 | C      | 0.00771 |
| rs208229   | 20        | 40895007 | C      | 0.00722 |
| rs4812665  | 20        | 41046640 | T      | 0.00705 |
| rs12481496 | 20        | 41071512 | G      | 0.00152 |
| rs6030780  | 20        | 41123994 | A      | 0.00012 |
| rs6031097  | 20        | 41381185 | A      | 0.00450 |
| rs1536918  | 20        | 41840942 | C      | 0.00503 |
| rs6031165  | 20        | 41904898 | T      | 0.01446 |
| rs3746566  | 20        | 41956979 | G      | 0.01313 |
| rs743152   | 20        | 42003325 | C      | 0.01290 |
| rs6073269  | 20        | 42042971 | G      | 0.01441 |
| rs6017252  | 20        | 42112605 | T      | 0.01512 |
| rs6065705  | 20        | 42174528 | A      | 0.00919 |
| rs16988852 | 20        | 42275043 | T      | 0.00902 |
| rs2071199  | 20        | 42464280 | A      | 0.00439 |
| rs2057242  | 20        | 42845911 | C      | 0.00073 |
| rs41348454 | 20        | 43253309 | A      | 0.00528 |
| rs6073746  | 20        | 43528383 | A      | 0.00672 |
| rs6073846  | 20        | 43729737 | G      | 0.00260 |
| rs11906879 | 20        | 44024731 | T      | 0.00093 |
| rs16985435 | 20        | 44101338 | T      | 0.01062 |
| rs4813003  | 20        | 44196691 | T      | 0.01622 |
| rs998422   | 20        | 44792815 | A      | 6.84500 |
| rs11699667 | 20        | 44801171 | G      | 0.01476 |
| SNP          | Chromosome | Position     | Allele | p-value |
|--------------|------------|--------------|--------|---------|
| rs6094514    | 20         | 44997127     | G      | 0.00826 |
| rs17488678   | 20         | 45010891     | T      | 0.00705 |
| rs6063063    | 20         | 45098501     | T      | 0.00994 |
| rs4810702    | 20         | 45871482     | C      | 0.00849 |
| rs11699291   | 20         | 46330350     | A      | 0.00655 |
| rs6095069    | 20         | 46398849     | G      | 0.00006 |
| rs761270     | 20         | 46712008     | G      | 0.00464 |
| rs6122713    | 20         | 46728448     | G      | 0.01442 |
| rs11697517   | 20         | 47843179     | G      | 0.01134 |
| rs11086294   | 20         | 47844836     | A      | 0.01304 |
| rs6012881    | 20         | 48277772     | A      | 0.01381 |
| rs230002     | 20         | 49166025     | G      | 0.00271 |
| rs2426299    | 20         | 49451402     | T      | 0.00948 |
| rs6067758    | 20         | 49457455     | A      | 0.01132 |
| rs747062     | 20         | 49535539     | C      | 0.00310 |
| rs1546920    | 20         | 49634189     | C      | 0.01438 |
| rs1048878    | 20         | 49646660     | A      | 0.00940 |
| rs6123073    | 20         | 49771095     | T      | 0.00810 |
| rs2426403    | 20         | 49791124     | A      | 0.01083 |
| rs6021427    | 20         | 49819497     | A      | 0.00713 |
| rs6021453    | 20         | 49854755     | C      | 0.00155 |
| rs6021460    | 20         | 49860267     | A      | 0.01394 |
| rs6063719    | 20         | 49873461     | G      | 0.00353 |
| rs6021501    | 20         | 49902951     | A      | 0.01339 |
| rs17730415   | 20         | 49971215     | G      | 0.00317 |
| rs6096889    | 20         | 50391244     | G      | 0.00151 |
| rs6022002    | 20         | 50669622     | A      | 0.00018 |
| rs861332     | 20         | 50697689     | A      | 0.01610 |
| rs6123232    | 20         | 51003913     | G      | 0.00472 |
| rs6022221    | 20         | 51072917     | C      | 0.01578 |
| rs1467428    | 20         | 51106390     | T      | 0.00047 |
| rs6091633    | 20         | 51139407     | A      | 10.36700 |
| rs6013646    | 20         | 51248380     | A      | 0.00417 |
| rs6126919    | 20         | 51733766     | C      | 0.01619 |
| rs2041317    | 20         | 51797014     | C      | 0.01329 |
| rs6022811    | 20         | 51912882     | T      | 0.00141 |
| rs210068     | 20         | 52159698     | T      | 0.00193 |
| rs455731     | 20         | 52870424     | G      | 0.01341 |
| rs6098293    | 20         | 52908663     | G      | 0.01499 |
| rs159094     | 20         | 53068550     | T      | 10.78700 |
| rs6023981    | 20         | 53301625     | G      | 0.01049 |
| rs2206897    | 20         | 53363883     | T      | 0.01124 |
| rs214388     | 20         | 53519449     | T      | 0.00870 |
| rs584635     | 20         | 53671210     | T      | 0.00654 |
| SNP       | Chromosome | Position   | Allele | Frequency |
|-----------|------------|------------|--------|-----------|
| rs1550194 | 20         | 53964926   | A      | 0.00943   |
| rs6014619 | 20         | 54179544   | C      | 0.01004   |
| rs6123569 | 20         | 54261178   | A      | 0.00161   |
| rs6014688 | 20         | 54336197   | A      | 0.00279   |
| rs6024830 | 20         | 54371614   | T      | 0.01289   |
| rs6099129 | 20         | 54402046   | A      | 0.00936   |
| rs3975198 | 20         | 54831523   | T      | 0.01627   |
| rs4811769 | 20         | 54878364   | C      | 0.00325   |
| rs1276367 | 20         | 55028093   | G      | 0.00098   |
| rs11697631| 20         | 55141325   | C      | 0.00131   |
| rs6070068 | 20         | 55352684   | C      | 0.01638   |
| rs6025742 | 20         | 55732097   | G      | 0.00098   |
| rs6026060 | 20         | 56128988   | C      | 0.00545   |
| rs6026122 | 20         | 56202490   | G      | 0.01645   |
| rs514706  | 20         | 5649284    | T      | 0.00492   |
| rs1980576 | 20         | 56479073   | A      | 0.01000   |
| rs1977137 | 20         | 56636409   | G      | 6.55000   |
| rs6026415 | 20         | 56637435   | A      | 0.01028   |
| rs1569823 | 20         | 56639242   | C      | 0.01103   |
| rs4812034 | 20         | 56830961   | G      | 0.01017   |
| rs7267048 | 20         | 57567610   | T      | 0.01147   |
| rs2426791 | 20         | 57595448   | C      | 0.01428   |
| rs1040797 | 20         | 57703423   | A      | 0.01538   |
| rs1416390 | 20         | 57717865   | G      | 0.01303   |
| rs6027337 | 20         | 58145873   | C      | 0.00210   |
| rs2865790 | 20         | 58158914   | G      | 0.00654   |
| rs1535028 | 20         | 58247823   | A      | 0.00485   |
| rs4305329 | 20         | 58363322   | T      | 0.00002   |
| rs17199686| 20         | 58441057   | A      | 0.01656   |
| rs1201888 | 20         | 58690252   | A      | 0.01372   |
| rs1201904 | 20         | 58706127   | G      | 0.00858   |
| rs1201987 | 20         | 58736287   | A      | 0.00750   |
| rs1201998 | 20         | 58740471   | A      | 0.01452   |
| rs1202001 | 20         | 58740936   | G      | 0.01611   |
| rs1202016 | 20         | 58743888   | C      | 0.01441   |
| rs1202030 | 20         | 58748486   | G      | 0.01459   |
| rs1202031 | 20         | 58748522   | T      | 0.01615   |
| rs2096400 | 20         | 58777455   | C      | 0.00361   |
| rs6124038 | 20         | 58957572   | C      | 0.01220   |
| rs6129015 | 20         | 59046308   | T      | 0.00133   |
| rs4812258 | 20         | 59064296   | C      | 0.00394   |
| rs2093154 | 20         | 59071337   | A      | 0.00370   |
| rs17732362| 20         | 59118539   | G      | 0.00027   |
| SNP       | Chromosome | Position   | Allele | p-value |
|-----------|------------|------------|--------|---------|
| rs6089247 | 20         | 59402927   | A      | 0.00438 |
| rs1891775 | 20         | 59592913   | C      | 0.00240 |
| rs6121726 | 20         | 59617642   | G      | 0.01188 |
| rs6089810 | 20         | 61001027   | A      | 0.01001 |
| rs6011456 | 20         | 61001169   | G      | 0.01327 |
| rs6010784 | 20         | 61010764   | C      | 0.01127 |
| rs4809436 | 20         | 61021955   | T      | 0.00161 |
| rs816943  | 20         | 62146453   | A      | 0.01178 |
| rs2822577 | 21         | 14627425   | G      | 0.00083 |
| rs2049858 | 21         | 14807145   | G      | 0.01207 |
| rs1556280 | 21         | 14807690   | A      | 0.00338 |
| rs2822998 | 21         | 15285230   | C      | 0.01002 |
| rs2823053 | 21         | 15387020   | G      | 0.00245 |
| rs2823119 | 21         | 15469515   | C      | 0.00192 |
| rs2823231 | 21         | 15608409   | C      | 0.00124 |
| rs1297268 | 21         | 15740038   | G      | 0.00192 |
| rs2037994 | 21         | 15880541   | C      | 0.00607 |
| rs2297248 | 21         | 16125656   | A      | 0.00135 |
| rs2823507 | 21         | 16147899   | G      | 0.01385 |
| rs11911879| 21         | 16248572   | G      | 0.00305 |
| rs2823607 | 21         | 16378484   | G      | 0.00517 |
| rs2823626 | 21         | 16470310   | T      | 0.00996 |
| rs2823736 | 21         | 16580133   | G      | 0.00893 |
| rs2824057 | 21         | 17099043   | C      | 0.00156 |
| rs2824082 | 21         | 17135016   | T      | 0.00238 |
| rs11701807| 21         | 17230025   | C      | 0.00257 |
| rs2824160 | 21         | 17287224   | T      | 0.00891 |
| rs2824201 | 21         | 17346621   | G      | 0.01434 |
| rs2824545 | 21         | 18209236   | C      | 0.01465 |
| rs2824549 | 21         | 18210063   | A      | 0.00034 |
| rs2824550 | 21         | 18212104   | T      | 0.01073 |
| rs2824571 | 21         | 18237813   | T      | 0.01644 |
| rs12626848| 21         | 18246644   | T      | 0.01449 |
| rs962868  | 21         | 18254668   | A      | 0.01436 |
| rs17698445| 21         | 18573228   | G      | 0.00181 |
| rs2824852 | 21         | 18786933   | C      | 0.00457 |
| rs2210230 | 21         | 18849904   | C      | 0.01081 |
| rs1740142 | 21         | 18853412   | C      | 0.00323 |
| rs2824918 | 21         | 18878732   | A      | 0.01045 |
| rs1735798 | 21         | 18878920   | T      | 0.01375 |
| rs2824946 | 21         | 18986937   | G      | 0.00794 |
| rs2824957 | 21         | 18914694   | A      | 0.00157 |
| rs1537075 | 21         | 19330009   | A      | 0.00288 |
| SNP       | Chr | Position | Ref | Alt | p-value  |
|-----------|-----|----------|-----|-----|----------|
| rs2406882 | 21  | 19359568 | G   |     | 0.00521  |
| rs2051365 | 21  | 19483092 | T   |     | 0.00168  |
| rs2825446 | 21  | 19551215 | G   |     | 0.00539  |
| rs2825545 | 21  | 19664061 | T   |     | 0.00830  |
| rs2826077 | 21  | 20490584 | G   |     | 0.00190  |
| rs2407647 | 21  | 20631007 | T   |     | 0.00695  |
| rs1482415 | 21  | 20978977 | A   |     | 0.00537  |
| rs463419  | 21  | 21050970 | C   |     | 0.00797  |
| rs2825446 | 21  | 21067008 | T   |     | 0.00737  |
| rs2407647 | 21  | 21138990 | G   |     | 0.01018  |
| rs1482415 | 21  | 21317961 | T   |     | 0.00795  |
| rs463419  | 21  | 21349346 | A   |     | 0.00626  |
| rs7278655 | 21  | 21863305 | G   |     | 0.00307  |
| rs41499345| 21  | 21873271 | G   |     | 0.01033  |
| rs2827061 | 21  | 22108903 | G   |     | 0.01157  |
| rs2827076 | 21  | 22118120 | T   |     | 0.00020  |
| rs2827077 | 21  | 22118163 | C   |     | 0.01410  |
| rs9306034 | 21  | 22127413 | A   |     | 0.00546  |
| rs2827091 | 21  | 22142443 | G   |     | 0.01272  |
| rs2827185 | 21  | 22280956 | A   |     | 0.01599  |
| rs2827186 | 21  | 22281407 | C   |     | 0.00125  |
| rs9976697 | 21  | 22361145 | A   |     | 0.00355  |
| rs2827482 | 21  | 22698343 | C   |     | 0.00334  |
| rs2827497 | 21  | 22704579 | C   |     | 0.00829  |
| rs2827511 | 21  | 22709066 | A   |     | 0.00699  |
| rs2026214 | 21  | 22710258 | C   |     | 0.01335  |
| rs11911777| 21  | 23126095 | A   |     | 0.00383  |
| rs2827909 | 21  | 23442973 | A   |     | 0.00372  |
| rs2827912 | 21  | 23443841 | G   |     | 0.00780  |
| rs2827915 | 21  | 23444664 | G   |     | 0.01295  |
| rs200710  | 21  | 23735278 | G   |     | 0.01458  |
| rs2828183 | 21  | 23761888 | A   |     | 0.00571  |
| rs2828400 | 21  | 23962554 | A   |     | 0.01404  |
| rs41508448| 21  | 24021053 | A   |     | 0.00172  |
| rs2000488 | 21  | 24588085 | C   |     | 0.01475  |
| rs2186438 | 21  | 24792561 | G   |     | 0.00213  |
| rs2860156 | 21  | 24894439 | C   |     | 0.00472  |
| rs9753823 | 21  | 25145535 | A   |     | 0.01402  |
| rs6516671 | 21  | 25727997 | G   |     | 0.01487  |
| rs2829769 | 21  | 25759286 | A   |     | 0.00215  |
| rs4816263 | 21  | 26131381 | C   |     | 0.00987  |
| rs1505455 | 21  | 26134691 | C   |     | 0.01089  |
| rs11087985| 21  | 26260130 | C   |     | 0.00920  |
| rs     | Chr | Start    | Allele | P     |
|--------|-----|----------|--------|-------|
| rs8132767 | 21  | 26610103 | G      | 0.01566 |
| rs9974283 | 21  | 26713128 | T      | 0.00861 |
| rs2409192 | 21  | 27030745 | A      | 0.00331 |
| rs17560766 | 21  | 27049363 | G      | 0.00871 |
| rs229060  | 21  | 27206861 | A      | 0.01240 |
| rs9977138 | 21  | 27489232 | G      | 0.01242 |
| rs1888433 | 21  | 27954964 | G      | 0.00846 |
| rs243741  | 21  | 28015624 | T      | 0.00660 |
| rs2831138 | 21  | 28021938 | T      | 0.00559 |
| rs2409292 | 21  | 28352843 | A      | 0.00350 |
| rs16982350 | 21 | 28699240 | C      | 0.00600 |
| rs2831921 | 21  | 28884811 | G      | 0.00207 |
| rs2026242 | 21  | 29161798 | G      | 0.01520 |
| rs1048546 | 21  | 29166748 | T      | 0.01066 |
| rs2254638 | 21  | 29178154 | A      | 0.01462 |
| rs2248501 | 21  | 29198282 | A      | 0.00867 |
| rs2832137 | 21  | 29201887 | A      | 0.01207 |
| rs2832147 | 21  | 29266813 | A      | 0.00284 |
| rs8129616 | 21  | 29441956 | T      | 0.00678 |
| rs8132759 | 21  | 29512822 | T      | 0.00584 |
| rs1029224 | 21  | 29932927 | T      | 0.00485 |
| rs2249140 | 21  | 29939211 | A      | 0.00669 |
| rs11088125 | 21 | 29945889 | G      | 0.00249 |
| rs363515  | 21  | 29964388 | C      | 0.00110 |
| rs459617  | 21  | 30062624 | T      | 0.01472 |
| rs455804  | 21  | 30068040 | G      | 0.00944 |
| rs932250  | 21  | 30073388 | A      | 0.00145 |
| rs1789237 | 21  | 30353978 | C      | 0.00724 |
| rs554895  | 21  | 30507226 | T      | 0.00760 |
| rs2833336 | 21  | 31503585 | G      | 0.01184 |
| rs1977904 | 21  | 31589767 | G      | 0.00025 |
| rs2284502 | 21  | 31669620 | G      | 0.01279 |
| rs2833405 | 21  | 31716506 | C      | 0.01183 |
| rs8133912 | 21  | 31766283 | G      | 0.01445 |
| rs1892857 | 21  | 31778042 | A      | 0.00884 |
| rs2833653 | 21  | 32393390 | G      | 0.01565 |
| rs2833864 | 21  | 32810264 | C      | 0.01469 |
| rs2833878 | 21  | 32840941 | A      | 0.00417 |
| rs283980  | 21  | 33145158 | C      | 0.00527 |
| rs2834073 | 21  | 33333415 | A      | 0.00398 |
| rs9305554 | 21  | 34900941 | C      | 0.01521 |
| rs2246640 | 21  | 35040142 | A      | 0.01115 |
| rs2834626 | 21  | 35045042 | T      | 0.00230 |
| rs2834639 | 21  | 35097947 | T      | 0.00447 |
| SNP          | Chromosome | Position   | Allele | P-value |
|--------------|------------|------------|--------|---------|
| rs2834643    | 21         | 35108266   | G      | 0.01126 |
| rs13047845   | 21         | 35156070   | T      | 0.01524 |
| rs41360844   | 21         | 35403341   | G      | 0.01168 |
| rs12152004   | 21         | 35633660   | C      | 0.00326 |
| rs2834941    | 21         | 35763116   | G      | 0.01108 |
| rs2834965    | 21         | 35844297   | A      | 0.00566 |
| rs41360844   | 21         | 35403341   | G      | 0.01168 |
| rs12152004   | 21         | 35633660   | C      | 0.00326 |
| rs2834643    | 21         | 35108266   | G      | 0.01126 |
| rs13047845   | 21         | 35156070   | T      | 0.01524 |
| rs41360844   | 21         | 35403341   | G      | 0.01168 |
| rs12152004   | 21         | 35633660   | C      | 0.00326 |
| rs2834941    | 21         | 35763116   | G      | 0.01108 |
| rs2834965    | 21         | 35844297   | A      | 0.00566 |
| rs1159089    | 21         | 36209667   | T      | 0.00891 |
| rs7282281    | 21         | 36304348   | A      | 0.01358 |
| rs12627448   | 21         | 39826812   | A      | 0.00159 |
| rs551558     | 21         | 39843109   | T      | 0.00278 |
| rs381716     | 21         | 40157622   | G      | 0.01610 |
| rs6998521    | 21         | 40087288   | T      | 0.00297 |
| rs2010513    | 21         | 40297194   | G      | 0.00733 |
| rs2837440    | 21         | 40421912   | G      | 0.01256 |
| rs2837291    | 21         | 40207884   | G      | 0.01540 |
| rs2837472    | 21         | 40456382   | A      | 0.01178 |
| rs2837512    | 21         | 40514545   | T      | 0.00523 |
| rs444584     | 21         | 40517596   | C      | 0.01114 |
| SNP        | Chromosome | Position   | Allele | P-Value |
|------------|------------|------------|--------|---------|
| rs376508   | 21         | 40518055   | G      | 0.00792 |
| rs447940   | 21         | 40518170   | C      | 0.01150 |
| rs435386   | 21         | 40520243   | A      | 0.00368 |
| rs1882758  | 21         | 40532666   | C      | 0.01103 |
| rs4818122  | 21         | 40543968   | A      | 0.01153 |
| rs2837534  | 21         | 40544164   | C      | 0.00771 |
| rs2222979  | 21         | 40545039   | A      | 0.00600 |
| rs2837756  | 21         | 40917744   | A      | 0.01367 |
| rs9984187  | 21         | 41067495   | C      | 0.01322 |
| rs2837884  | 21         | 41231130   | A      | 0.01494 |
| rs2837961  | 21         | 41440469   | A      | 0.00865 |
| rs2838008  | 21         | 41606914   | A      | 0.01377 |
| rs9985079  | 21         | 41609006   | G      | 0.00193 |
| rs9984523  | 21         | 41805901   | A      | 0.00954 |
| rs8134657  | 21         | 41815778   | T      | 0.01547 |
| rs2247788  | 21         | 41940314   | C      | 0.01536 |
| rs11203155 | 21         | 42043210   | C      | 0.01491 |
| rs11702415 | 21         | 42270454   | T      | 0.00384 |
| rs928874   | 21         | 42295594   | T      | 0.00871 |
| rs220120   | 21         | 42402584   | C      | 0.01283 |
| rs2839570  | 21         | 42974196   | T      | 0.00781 |
| rs4920037  | 21         | 43354960   | T      | 0.00041 |
| rs229347   | 21         | 43672498   | G      | 0.01485 |
| rs2838325  | 21         | 43838712   | A      | 0.00665 |
| rs2838334  | 21         | 43889389   | G      | 0.00772 |
| rs762400   | 21         | 43938057   | C      | 0.01345 |
| rs4818873  | 21         | 44193313   | T      | 0.00821 |
| rs11088961 | 21         | 44985089   | A      | 0.01416 |
| rs2838806  | 21         | 45443029   | T      | 0.01337 |
| rs7282214  | 21         | 45876985   | G      | 0.00530 |
| rs877746   | 21         | 46434159   | G      | 0.01356 |
| rs2254524  | 21         | 46438897   | C      | 0.00489 |
| rs1544504  | 22         | 16050256   | A      | 0.01475 |
| rs9617982  | 22         | 16172740   | T      | 0.00595 |
| rs2078734  | 22         | 16281683   | A      | 0.00081 |
| rs4819596  | 22         | 16370606   | C      | 0.01191 |
| rs5747306  | 22         | 16508960   | C      | 0.00909 |
| rs2401163  | 22         | 16511078   | C      | 0.00834 |
| rs2587081  | 22         | 16563623   | C      | 0.01546 |
| rs11538    | 22         | 16600831   | G      | 0.01592 |
| rs5992861  | 22         | 16687634   | A      | 0.01255 |
| rs5992871  | 22         | 16690110   | A      | 0.01316 |
| rs2073738  | 22         | 17550956   | T      | 0.00637 |
| rs1985884  | 22         | 18023245   | T      | 0.00487 |
| SNP   | Chromosome | Position | Allele | P-value |
|-------|------------|----------|--------|---------|
| rs10483160 | 22         | 30407247 | A      | 0.01230 |
| rs17683310 | 22         | 30807445 | A      | 0.01318 |
| rs5753966 | 22         | 31045559 | T      | 9.68700 |
| rs1109364 | 22         | 31186594 | A      | 0.00251 |
| rs3213515 | 22         | 31234927 | G      | 0.00331 |
| rs9621545 | 22         | 31451988 | G      | 0.01153 |
| rs5753966 | 22         | 31045559 | T      | 9.68700 |
| rs1109364 | 22         | 31186594 | A      | 0.00251 |
| rs3213515 | 22         | 31234927 | G      | 0.00331 |
| rs9621545 | 22         | 31451988 | G      | 0.01153 |
| rs4821103 | 22         | 31502612 | T      | 0.01407 |
| rs137547  | 22         | 31641455 | C      | 0.01277 |
| rs12484058| 22         | 31760898 | G      | 0.01638 |
| rs743793  | 22         | 31891746 | A      | 0.00243 |
| rs130250  | 22         | 32038680 | T      | 0.00321 |
| rs1004811 | 22         | 32139429 | G      | 0.01129 |
| rs8138344 | 22         | 32150256 | C      | 0.00500 |
| rs5998941 | 22         | 32158996 | C      | 0.01071 |
| rs239330  | 22         | 32465007 | G      | 0.00989 |
| rs4821197 | 22         | 32655300 | G      | 0.00698 |
| rs5754821 | 22         | 32803145 | T      | 0.00035 |
| rs5999208 | 22         | 32842123 | T      | 0.01035 |
| rs387332  | 22         | 32880905 | A      | 0.00679 |
| rs1003935 | 22         | 32955711 | G      | 0.00272 |
| rs11089671| 22         | 33160603 | C      | 0.01235 |
| rs4423    | 22         | 33199196 | G      | 0.00360 |
| rs1012604 | 22         | 33522006 | A      | 0.01195 |
| rs5755575 | 22         | 33821969 | G      | 0.00663 |
| rs1573763 | 22         | 33850076 | A      | 0.01456 |
| rs5750093 | 22         | 34014533 | C      | 0.01420 |
| rs470109  | 22         | 34249783 | A      | 0.00820 |
| rs5995222 | 22         | 34846890 | T      | 0.00513 |
| rs1476029 | 22         | 34847878 | A      | 16.82700 |
| rs5756080 | 22         | 34857913 | G      | 0.01140 |
| rs132644  | 22         | 34875772 | A      | 0.01648 |
| rs132645  | 22         | 34878352 | G      | 0.01652 |
| rs132648  | 22         | 34882348 | A      | 0.01581 |
| rs4821460 | 22         | 34885418 | C      | 0.01643 |
| rs6519032 | 22         | 35439255 | G      | 0.00580 |
| rs2284033 | 22         | 35863980 | G      | 0.00002 |
| rs727047  | 22         | 36007665 | G      | 0.00146 |
| rs12167035| 22         | 36307228 | T      | 0.00557 |
| rs5750547 | 22         | 36876646 | A      | 0.01533 |
| rs6001118 | 22         | 37126964 | A      | 0.00870 |
| rs5757312 | 22         | 37585537 | G      | 0.00357 |
| rs126228  | 22         | 38011382 | G      | 0.01133 |
| rs137960  | 22         | 38631426 | A      | 0.00372 |
| rs4822050 | 22         | 40507399 | C      | 0.00348 |
| SNP          | Chromosome | Location   | Effect | p-value |
|--------------|------------|------------|--------|---------|
| rs8141783    | 22         | 40509057   | A      | 0.00228 |
| rs9620000    | 22         | 40626649   | G      | 0.01537 |
| rs4820483    | 22         | 41518124   | T      | 0.00475 |
| rs5758965    | 22         | 41556543   | T      | 0.00288 |
| rs12166809   | 22         | 41617234   | T      | 0.00518 |
| rs4820494    | 22         | 41635805   | C      | 0.00340 |
| rs9607982    | 22         | 41652158   | T      | 0.00260 |
| rs4820483    | 22         | 41652158   | T      | 0.00475 |
| rs9607982    | 22         | 41652158   | T      | 0.00260 |
| rs1071960    | 22         | 41679576   | C      | 0.01087 |
| rs2072883    | 22         | 41765612   | C      | 0.00358 |
| rs1883264    | 22         | 41839790   | G      | 0.01600 |
| rs4988406    | 22         | 41848268   | G      | 0.00081 |
| rs11574528   | 22         | 41857625   | A      | 0.01570 |
| rs12158070   | 22         | 41923533   | T      | 0.00055 |
| rs135058     | 22         | 42168027   | T      | 0.01312 |
| rs4823107    | 22         | 42712556   | G      | 0.01547 |
| rs16991341   | 22         | 42740509   | T      | 0.00472 |
| rs761165     | 22         | 42845162   | T      | 0.01447 |
| rs738485     | 22         | 42859468   | T      | 0.00733 |
| rs2267617    | 22         | 42870021   | T      | 0.01086 |
| rs470003     | 22         | 43233894   | C      | 0.00403 |
| rs3213550    | 22         | 43512004   | T      | 0.01629 |
| rs131989     | 22         | 43785782   | G      | 0.01449 |
| rs132017     | 22         | 43803024   | A      | 0.01296 |
| rs140570     | 22         | 43824995   | C      | 0.00587 |
| rs5766378    | 22         | 43828179   | T      | 0.01505 |
| rs4416       | 22         | 44350681   | G      | 0.00143 |
| rs138151     | 22         | 44484981   | C      | 0.00792 |
| rs9626891    | 22         | 44861612   | G      | 0.01587 |
| rs12330015   | 22         | 44968942   | C      | 0.00859 |
| rs7292762    | 22         | 45246945   | G      | 0.01079 |
| rs6008939    | 22         | 45416745   | C      | 0.01080 |
| rs5769346    | 22         | 45839347   | C      | 0.00699 |
| rs5767489    | 22         | 45879447   | A      | 0.01234 |
| rs136646     | 22         | 46043258   | A      | 0.01647 |
| rs80454      | 22         | 46043490   | A      | 0.01666 |
| rs4823640    | 22         | 46184860   | C      | 0.00435 |
| rs6008214    | 22         | 46223455   | C      | 0.00676 |
| rs1190798    | 22         | 46649430   | G      | 0.00316 |
| rs6008438    | 22         | 46658741   | T      | 0.00484 |
| rs8137558    | 22         | 46989892   | C      | 0.00703 |
| rs9615801    | 22         | 46990410   | G      | 0.01613 |
| rs9615287    | 22         | 46990520   | G      | 0.01235 |
| rs7287281    | 22         | 46997362   | C      | 0.00813 |
| rs133666     | 22         | 47105923   | G      | 0.01125 |
| SNP          | Chromosome | Position   | Allele | P-value |
|-------------|------------|------------|--------|---------|
| rs16999333  | 22         | 47304733   | C      | 0.00525 |
| rs6009160   | 22         | 47868868   | G      | 0.00853 |
| rs9616423   | 22         | 47872695   | G      | 0.00562 |
| rs7288663   | 22         | 48054141   | C      | 0.01516 |
| rs860236    | 22         | 48118077   | T      | 0.01515 |
| rs5769604   | 22         | 48161155   | A      | 0.00418 |
| rs135853    | 22         | 48364457   | T      | 0.01101 |
| rs5771077   | 22         | 48906662   | G      | 0.01520 |
**Table S4:** Linkage disequilibrium ($r^2$ values > 0.2) among pairs of SNPs used to generate v1.0 quit success scores. These values come from PLINK, v 1.07 tests of SNPs that are not more than 10 SNPs apart within a 1Mb sliding window, and provides $r^2$ correlations based on genotypic allele counts between variables, coded 0, 1 or 2 to represent the number of non-reference alleles at each.

| chr | bp (SNP A) | SNP A   | bp (SNP B) | SNP B   | $r^2$  |
|-----|------------|---------|------------|---------|--------|
| 1   | 4358909    | rs12042555 | 4360565    | rs1870506 | 0.587  |
| 1   | 5398168    | rs11576458 | 5398185    | rs11576460 | 0.812  |
| 1   | 5640603    | rs1695629  | 5641161    | rs1695628  | 0.820  |
| 1   | 9304621    | rs1294055  | 9304872    | rs564709   | 0.527  |
| 1   | 9304872    | rs564709   | 9950127    | rs2890358  | 0.238  |
| 1   | 10549509   | rs11121594 | 10555860   | rs6687502  | 0.990  |
| 1   | 14361606   | rs7545744  | 14367357   | rs10489143 | 0.512  |
| 1   | 14361606   | rs7545744  | 14367359   | rs10489144 | 0.512  |
| 1   | 14367357   | rs6692603  | 14367590   | rs10489144 | 0.705  |
| 1   | 14367357   | rs6692603  | 14368482   | rs10489143 | 0.705  |
| 1   | 14367590   | rs10489144 | 14368482   | rs10489143 | 1.000  |
| 1   | 14790404   | rs12145446 | 14793530   | rs2486778  | 0.924  |
| 1   | 15706947   | rs2020902  | 15773124   | rs6696286  | 0.221  |
| 1   | 15773124   | rs6429753  | 15841357   | rs6696286  | 0.534  |
| 1   | 15841357   | rs6696286  | 15878379   | rs12082523 | 0.543  |
| 1   | 17244342   | rs10887994 | 17247250   | rs7536679  | 1.000  |
| 1   | 17244342   | rs10887994 | 17247329   | rs7545518  | 1.000  |
| 1   | 17244342   | rs10887994 | 17273681   | rs2295053  | 0.398  |
| 1   | 17247250   | rs7536679  | 17247329   | rs7545518  | 1.000  |
| 1   | 17247250   | rs7536679  | 17273681   | rs2295053  | 0.401  |
| 1   | 17247329   | rs7545518  | 17273681   | rs2295053  | 0.413  |
| 1   | 20893785   | rs535696   | 20904570   | rs6702859  | 0.215  |
| 1   | 20893785   | rs535696   | 20906226   | rs875015   | 0.226  |
| 1   | 20893785   | rs535696   | 20907736   | rs6426645  | 0.347  |
| 1   | 20893785   | rs535696   | 20920203   | rs637990   | 0.234  |
| 1   | 20904570   | rs6702859  | 20906226   | rs875015   | 0.962  |
| 1   | 20904570   | rs6702859  | 20907736   | rs6426645  | 0.708  |
| 1   | 20904570   | rs6702859  | 20920203   | rs637990   | 0.473  |
| 1   | 20906226   | rs875015   | 20907736   | rs6426645  | 0.745  |
| 1   | 20906226   | rs875015   | 20920203   | rs637990   | 0.510  |
| 1   | 20906226   | rs875015   | 21228428   | rs6659152  | 0.225  |
| 1   | 20907736   | rs6426645  | 20920203   | rs637990   | 0.717  |
| 1   | 20907736   | rs6426645  | 20939588   | rs12123092 | 0.235  |
| 1   | 20907736   | rs6426645  | 20978603   | rs1021077  | 0.321  |
| Ch Chromosome | Position | SNP1  | Position | SNP2  | Position | SNP3  | MAF  |
|--------------|----------|-------|----------|-------|----------|-------|------|
| 1            | 20907736 | rs6426645 | 20987420 | rs3856173 | 0.307 |
| 1            | 20907736 | rs6426645 | 21107510 | rs4654887 | 0.290 |
| 1            | 20907736 | rs6426645 | 21171950 | rs6700718 | 0.291 |
| 1            | 20907736 | rs6426645 | 21228428 | rs6659152 | 0.400 |
| 1            | 20907736 | rs6426645 | 21264462 | rs1354792 | 0.261 |
| 1            | 20920203 | rs637990  | 20939588 | rs12123092 | 0.343 |
| 1            | 20920203 | rs637990  | 20978603 | rs1021077 | 0.504 |
| 1            | 20920203 | rs637990  | 21029254 | rs4654874 | 0.278 |
| 1            | 20920203 | rs637990  | 21107510 | rs4654887 | 0.463 |
| 1            | 20920203 | rs637990  | 21171950 | rs6700718 | 0.454 |
| 1            | 20920203 | rs637990  | 21228428 | rs6659152 | 0.537 |
| 1            | 20920203 | rs637990  | 21264462 | rs1354792 | 0.386 |
| 1            | 20920203 | rs637990  | 21282818 | rs4654899 | 0.452 |
| 1            | 20939588 | rs12123092 | 20978603 | rs1021077 | 0.731 |
| 1            | 20939588 | rs12123092 | 20987420 | rs3856173 | 0.743 |
| 1            | 20939588 | rs12123092 | 21029254 | rs4654874 | 0.630 |
| 1            | 20939588 | rs12123092 | 21107510 | rs4654887 | 0.566 |
| 1            | 20939588 | rs12123092 | 21171950 | rs6700718 | 0.549 |
| 1            | 20939588 | rs12123092 | 21228428 | rs6659152 | 0.548 |
| 1            | 20939588 | rs12123092 | 21264462 | rs1354792 | 0.660 |
| 1            | 20939588 | rs12123092 | 21282818 | rs4654899 | 0.554 |
| 1            | 20939588 | rs12123092 | 21320522 | rs12402486 | 0.651 |
| 1            | 20978603 | rs1021077 | 20987420 | rs3856173 | 0.965 |
| 1            | 20978603 | rs1021077 | 21029254 | rs4654874 | 0.645 |
| 1            | 20978603 | rs1021077 | 21107510 | rs4654887 | 0.740 |
| 1            | 20978603 | rs1021077 | 21171950 | rs6700718 | 0.735 |
| 1            | 20978603 | rs1021077 | 21228428 | rs6659152 | 0.739 |
| 1            | 20978603 | rs1021077 | 21264462 | rs1354792 | 0.616 |
| 1            | 20978603 | rs1021077 | 21282818 | rs4654899 | 0.718 |
| 1            | 20978603 | rs1021077 | 21320522 | rs12402486 | 0.620 |
| 1            | 20978603 | rs1021077 | 21388493 | rs6702110 | 0.714 |
| 1            | 20987420 | rs3856173 | 21029254 | rs4654874 | 0.678 |
| 1            | 20987420 | rs3856173 | 21107510 | rs4654887 | 0.781 |
| 1            | 20987420 | rs3856173 | 21171950 | rs6700718 | 0.754 |
| 1            | 20987420 | rs3856173 | 21228428 | rs6659152 | 0.720 |
| 1            | 20987420 | rs3856173 | 21264462 | rs1354792 | 0.654 |
| 1            | 20987420 | rs3856173 | 21282818 | rs4654899 | 0.759 |
| 1            | 20987420 | rs3856173 | 21320522 | rs12402486 | 0.658 |
| 1            | 20987420 | rs3856173 | 21388493 | rs6702110 | 0.755 |
| 1            | 21029254 | rs4654874 | 21107510 | rs4654887 | 0.720 |
| 1            | 21029254 | rs4654874 | 21171950 | rs6700718 | 0.679 |
| 1            | 21029254 | rs4654874 | 21228428 | rs6659152 | 0.588 |
| 1            | 21029254 | rs4654874 | 21264462 | rs1354792 | 0.766 |
|   | rs10914890 | rs10915041 | rs12402486 | rs12402486 | 0.294 |
|---|------------|------------|------------|------------|------|
| 1 | 21029254   | 21282818   | 21320522   | 21320522   | 0.697|
| 1 | 21029254   | 21282818   | 21320522   | 21320522   | 0.774|
| 1 | 21029254   | 21282818   | 21320522   | 21320522   | 0.688|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.957|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.855|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.855|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.974|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.861|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.974|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.901|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.860|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.983|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.867|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.982|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.781|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.883|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.786|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.881|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.883|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.991|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.847|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.890|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 1.000|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.880|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.754|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.270|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.663|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.461|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.322|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.792|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.921|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.854|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.922|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.369|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.403|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.709|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.517|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.431|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.296|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.702|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.278|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.277|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.271|
| 1 | 21107510   | 21171950   | 21171950   | 21171950   | 0.294|
|   | rs10914890  | rs1342153 | rs6425886 | rs979336 | 0.283 |
|---|-------------|-----------|-----------|---------|-------|
| 1 | 34478745    | 34514539  | 34514843  | 34510599| 0.291 |
| 1 | 34478745    | 34514843  | 34515663  | 34521341| 0.271 |
| 1 | 34478745    | 34514980  | 34521341  | 34514843| 0.289 |
| 1 | 34506613    | 34506764  | 34508639  | 34514539| 0.943 |
| 1 | 34506613    | 345079034 | 34508639  | 34514539| 0.962 |
| 1 | 34506613    | 345079034 | 34510599  | 345136170| 0.942 |
| 1 | 34506613    | 345079034 | 34514539  | 34510599| 0.914 |
| 1 | 34506613    | 345079034 | 34514539  | 34510599| 0.886 |
| 1 | 34506613    | 345079034 | 34514843  | 34510599| 0.962 |
| 1 | 34506613    | 345079034 | 34515663  | 34521341| 0.962 |
| 1 | 34506613    | 345079034 | 34515663  | 34521341| 0.855 |
| 1 | 34506764    | 34508639  | 345079034 | 34514843| 0.890 |
| 1 | 34506764    | 34508639  | 34510599  | 345136170| 0.868 |
| 1 | 34506764    | 34508639  | 34514192  | 34510599| 0.894 |
| 1 | 34506764    | 34508639  | 34514539  | 34510599| 0.809 |
| 1 | 34506764    | 34508639  | 34514843  | 34510599| 0.890 |
| 1 | 34506764    | 34508639  | 34515663  | 34521341| 0.890 |
| 1 | 34506764    | 34508639  | 34515663  | 34521341| 0.810 |
| 1 | 34508639    | 34521341  | 34510599  | 34510599| 0.981 |
| 1 | 34508639    | 34521341  | 34524118  | 34514192| 0.953 |
| 1 | 34508639    | 34521341  | 34524118  | 34514539| 0.927 |
| 1 | 34508639    | 34521341  | 34524118  | 34514843| 1.000 |
| 1 | 34508639    | 34521341  | 34524118  | 34515663| 1.000 |
| 1 | 34508639    | 34521341  | 34524118  | 34515663| 0.888 |
| 1 | 34510599    | 34514192  | 34510599  | 34510599| 0.971 |
| 1 | 34510599    | 34514192  | 34514539  | 34510599| 0.944 |
| 1 | 34510599    | 34514192  | 34514843  | 34510599| 0.981 |
| 1 | 34510599    | 34514192  | 34514843  | 34510599| 0.981 |
| 1 | 34510599    | 34514192  | 34514843  | 34510599| 0.981 |
| 1 | 34510599    | 34514192  | 34514843  | 34510599| 0.904 |
| 1 | 34514192    | 34510599  | 34514539  | 34510599| 0.914 |
| 1 | 34514192    | 34510599  | 34514539  | 34510599| 0.953 |
| 1 | 34514192    | 34510599  | 34514539  | 34510599| 0.953 |
| 1 | 34514192    | 34510599  | 34514539  | 34510599| 0.953 |
| 1 | 34514192    | 34510599  | 34514539  | 34510599| 0.911 |
| 1 | 34514539    | 34521341  | 34514843  | 34514539| 0.927 |
| 1 | 34514539    | 34521341  | 34514843  | 34514539| 0.927 |
| 1 | 34514539    | 34521341  | 34514843  | 34514539| 0.840 |
| 1 | 34514843    | 34514539  | 34521341  | 34514539| 1.000 |
| 1 | 34514843    | 34514539  | 34521341  | 34514539| 0.888 |
| 1 | 34515663    | 34514843  | 34521341  | 34514539| 0.888 |
| 1 | 38397365    | 34515663  | 34514843  | 34521341| 0.904 |
| 1 | 42225904    | 34514843  | 34521341  | 34514539| 0.587 |
| 1 | 42225904    | 34514843  | 34521341  | 34514539| 0.280 |
|   | rs     | rs     | rs     |   |
|---|--------|--------|--------|---|
| 1 | 44162979 | rs9326136 | 44206451 | rs7412307 | 0.849 |
| 1 | 44192835 | rs2486013 | 44206451 | rs7412307 | 0.239 |
| 1 | 46360474 | rs785495 | 46406461 | rs3855959 | 0.432 |
| 1 | 46828579 | rs956527 | 46897066 | rs611468 | 0.213 |
| 1 | 50826910 | rs3789586 | 50839538 | rs12083078 | 0.930 |
| 1 | 54547791 | rs4927088 | 54550150 | rs11206329 | 0.608 |
| 1 | 54891877 | rs9332417 | 54910882 | rs598130 | 0.274 |
| 1 | 55257398 | rs2495505 | 55268627 | rs11206510 | 0.244 |
| 1 | 55826910 | rs11206601 | 55839140 | rs12124393 | 0.748 |
| 1 | 55839140 | rs1392128 | 55938330 | rs2767515 | 0.300 |
| 1 | 55885953 | rs12124393 | 55938330 | rs2767515 | 0.431 |
| 1 | 55938330 | rs2767515 | 55973612 | rs2767499 | 0.296 |
| 1 | 57800162 | rs11206601 | 57815437 | rs947242 | 0.954 |
| 1 | 58250080 | rs285400 | 58260828 | rs834489 | 0.227 |
| 1 | 58250080 | rs285400 | 58260828 | rs7553101 | 0.215 |
| 1 | 58658783 | rs697585 | 58675926 | rs706430 | 0.785 |
| 1 | 63679468 | rs2036867 | 63755548 | rs12078371 | 0.434 |
| 1 | 63881947 | rs2269239 | 63897660 | rs11208264 | 0.359 |
| 1 | 63881947 | rs2269239 | 63900797 | rs2013012 | 0.463 |
| 1 | 63897660 | rs11208264 | 63900797 | rs2013012 | 0.233 |
| 1 | 63897660 | rs11208264 | 63932834 | rs6678106 | 0.276 |
| 1 | 64254244 | rs285393 | 64250080 | rs285400 | 0.759 |
| 1 | 64250080 | rs285400 | 64260828 | rs834489 | 0.227 |
| 1 | 64250080 | rs285400 | 65192778 | rs7553101 | 0.215 |
| 1 | 65454131 | rs4916031 | 65461049 | rs6677191 | 0.473 |
| 1 | 65808327 | rs3790432 | 65815607 | rs3790426 | 0.903 |
| 1 | 66217237 | rs2503197 | 66224365 | rs1317611 | 0.578 |
| 1 | 66217237 | rs2503197 | 66242794 | rs2186122 | 0.762 |
| 1 | 66217237 | rs2503197 | 66246509 | rs2489907 | 0.568 |
| 1 | 66224365 | rs1317611 | 66242794 | rs2186122 | 0.471 |
| 1 | 66224365 | rs1317611 | 66246509 | rs2489907 | 0.769 |
| 1 | 66242794 | rs2186122 | 66246509 | rs2489907 | 0.504 |
| 1 | 68721727 | rs10789263 | 68794759 | rs1924529 | 0.788 |
| 1 | 69913646 | rs11209514 | 69916151 | rs12133092 | 0.930 |
| 1 | 69913646 | rs11209514 | 69921347 | rs12022970 | 0.941 |
| 1 | 69916151 | rs12133092 | 69921347 | rs12022970 | 0.986 |
| 1 | 70272500 | rs17131142 | 70272705 | rs12025814 | 0.828 |
| 1 | 70272500 | rs17131142 | 70461803 | rs2274913 | 0.327 |
| 1 | 70272705 | rs12025814 | 70461803 | rs2274913 | 0.255 |
| 1 | 72011020 | rs2125777 | 72015178 | rs1491198 | 0.874 |
| 1 | 73692628 | rs647478 | 73705474 | rs12140865 | 0.828 |
|   | snp1     | rsID1   | snp2     | rsID2   | r-value |
|---|----------|---------|----------|---------|---------|
| 1 | 73692628 | rs647478| 73713306 | rs6701520| 0.813   |
| 1 | 73692628 | rs647478| 73748346 | rs7534840| 0.525   |
| 1 | 73705474 | rs12140865| 73713306 | rs6701520| 0.952   |
| 1 | 73705474 | rs12140865| 73748346 | rs7534840| 0.636   |
| 1 | 73713306 | rs6701520| 73748346 | rs7534840| 0.598   |
| 1 | 75014984 | rs1475396| 75024722 | rs10874274| 0.924   |
| 1 | 75014984 | rs1475396| 75032916 | rs927904  | 0.636   |
| 1 | 75024722 | rs10874274| 75032916 | rs927904  | 0.947   |
| 1 | 78775177 | rs12731181| 78820018 | rs1339798 | 0.282   |
| 1 | 79778531 | rs12751985| 79849115 | rs2374186 | 0.390   |
| 1 | 80517701 | rs13620936| 80577091 | rs12751985| 0.390   |
| 1 | 80577091 | rs13620936| 80629549 | rs10874274| 0.924   |
| 1 | 80611468 | rs12731181| 80629549 | rs1339798 | 0.282   |
| 1 | 85843032 | rs9803850 | 85983841 | rs10493773| 0.410   |
| 1 | 86930717 | rs692739  | 87227506 | rs2390220 | 0.296   |
| 1 | 87542558 | rs1888337 | 87549430 | rs4655952 | 0.893   |
| 1 | 88841271 | rs11590752| 88998564 | rs430600  | 0.589   |
| 1 | 88841271 | rs11590752| 89134355 | rs10922504| 0.288   |
| 1 | 88998564 | rs430600  | 89134355 | rs10922504| 0.594   |
| 1 | 88998564 | rs430600  | 89200041 | rs1325922 | 0.460   |
| 1 | 89088833 | rs12405169| 89429449 | rs6667970 | 0.271   |
| 1 | 89134355 | rs10922504| 89200041 | rs1325922 | 0.460   |
| 1 | 91048019 | rs10493841| 91051894 | rs1092292 | 1.000   |
| 1 | 91048019 | rs10493841| 91052106 | rs1725430 | 0.641   |
| 1 | 91051894 | rs1092292 | 91052106 | rs1725430 | 0.644   |
| 1 | 92173025 | rs11165840| 92191962 | rs766665  | 0.742   |
| 1 | 93532515 | rs6687359 | 93568520 | rs4847409 | 1.000   |
| 1 | 93991061 | rs4075523 | 93996357 | rs4240956 | 0.928   |
| 1 | 94000572 | rs7515462 | 94014144 | rs2391313 | 1.000   |
| 1 | 94000572 | rs7515462 | 94022128 | rs1004197 | 0.886   |
| 1 | 94000572 | rs7515462 | 94055681 | rs6692717 | 0.912   |
| 1 | 94014144 | rs2391313 | 94022128 | rs1004197 | 0.886   |
| 1 | 94014144 | rs2391313 | 94055681 | rs6692717 | 0.912   |
| 1 | 94022128 | rs1004197 | 94055681 | rs6692717 | 0.991   |
| 1 | 94730966 | rs1749541 | 94762365 | rs7555399 | 0.233   |
| 1 | 94984405 | rs1760512 | 95065079 | rs12048606| 0.212   |
| 1 | 95831138 | rs10489562| 95848258 | rs1509173 | 0.923   |
| 1 | 95831138 | rs10489562| 95860780 | rs621485  | 0.468   |
| 1 | 95848258 | rs1509173 | 95860780 | rs621485  | 0.487   |
| 1 | 99382703 | rs302756  | 99390673 | rs302765  | 0.863   |
| 1 | 99382703 | rs302756  | 99416551 | rs668206  | 0.254   |
| 1 | 99390673 | rs302765  | 99416551 | rs668206  | 0.226   |
| 1 | 99871758 | rs7529598 | 99872120 | rs10875240| 0.955   |
| 1 | 100050187| rs1565744 | 100089177| rs2307130 | 0.413   |
|   | SNV1    | SNV2    | SNV3    | NP1     | P1       |
|---|---------|---------|---------|---------|----------|
| 1 | 102167808 | rs7515984 | 102176835 | rs755181 | 0.708    |
| 1 | 102167808 | rs7515984 | 102181350 | rs7512461 | 0.702    |
| 1 | 102167808 | rs7515984 | 102184466 | rs11583344 | 0.605    |
| 1 | 102176835 | rs7515984 | 102181350 | rs7512461 | 1.000    |
| 1 | 102176835 | rs755181 | 102184466 | rs11583344 | 0.934    |
| 1 | 102181350 | rs7515984 | 102184466 | rs11583344 | 0.934    |
| 1 | 110217322 | rs12036949 | 110218390 | rs7522621 | 0.970    |
| 1 | 111954125 | rs2477425 | 111985163 | rs1324889 | 0.418    |
| 1 | 112388477 | rs4839202 | 112399680 | rs269080  | 0.307    |
| 1 | 112388477 | rs4839202 | 112405977 | rs17740750 | 0.514    |
| 1 | 112388477 | rs4839202 | 112410575 | rs370258  | 0.303    |
| 1 | 112388477 | rs4839202 | 112427091 | rs7512461 | 0.934    |
| 1 | 112388477 | rs4839202 | 112436461 | rs269080  | 0.330    |
| 1 | 112399680 | rs269080  | 112405977 | rs17740750 | 0.451    |
| 1 | 112399680 | rs269080  | 112410575 | rs370258  | 0.798    |
| 1 | 112399680 | rs269080  | 112436461 | rs269080  | 0.428    |
| 1 | 112405977 | rs17740750 | 112410575 | rs370258  | 0.515    |
| 1 | 112405977 | rs17740750 | 112427091 | rs7531453 | 0.502    |
| 1 | 112405977 | rs17740750 | 112436461 | rs269097  | 0.341    |
| 1 | 112405977 | rs17740750 | 112436461 | rs269097  | 0.418    |
| 1 | 112427091 | rs7531453 | 112436461 | rs269097  | 0.575    |
| 1 | 112524987 | rs1992509 | 112563816 | rs1416203 | 0.678    |
| 1 | 112563816 | rs1416203 | 112583214 | rs2988359 | 0.253    |
| 1 | 112582141 | rs2998359 | 112583214 | rs1371690 | 0.844    |
| 1 | 113890839 | rs17013326 | 113941445 | rs1217226 | 0.718    |
| 1 | 113890839 | rs17013326 | 114045700 | rs1230649 | 0.841    |
| 1 | 113890839 | rs17013326 | 114139759 | rs1217396 | 0.834    |
| 1 | 113890839 | rs17013326 | 114216891 | rs2488457 | 0.716    |
| 1 | 113941445 | rs1217226 | 114405700 | rs1230649 | 0.646    |
| 1 | 113941445 | rs1217226 | 114139759 | rs1217396 | 0.645    |
| 1 | 113941445 | rs1217226 | 114216891 | rs2488457 | 0.558    |
| 1 | 114045700 | rs1230649 | 114139759 | rs1217396 | 0.985    |
| 1 | 114045700 | rs1230649 | 114216891 | rs2488457 | 0.858    |
| 1 | 114139759 | rs1217396 | 114216891 | rs2488457 | 0.851    |
| 1 | 118234461 | rs12116827 | 118269162 | rs2208375 | 0.276    |
| 1 | 145134659 | rs6668865 | 145159853 | rs2354432 | 0.297    |
| 1 | 149678259 | rs12751531 | 149695229 | rs10736380 | 0.908    |
| 1 | 151267854 | rs11205174 | 151317140 | rs10888528 | 0.418    |
| 1 | 152091894 | rs11264275 | 153149168 | rs10908448 | 0.251    |
| 1 | 153091894 | rs11264275 | 153153441 | rs4845690 | 0.251    |
| 1 | 153149168 | rs10908448 | 153153441 | rs4845690 | 0.992    |
| 1 | 156433933 | rs7530662 | 156451439 | rs393304  | 0.238    |
| 1 | 159099423 | rs7410867 | 159166407 | rs11587040 | 0.218    |
| 1 | 160445222 | rs4657171 | 160452056 | rs12064639 | 0.438    |
| # | rs16515998 | rs11579987 | 165214305 | rs7545911 | 0.266 |
|---|-----------|------------|------------|----------|-------|
| 1 | rs16515998 | rs11579987 | 165216603 | rs6682062 | 0.266 |
| 1 | rs16515998 | rs11579987 | 165218493 | rs6688613 | 0.422 |
| 1 | rs16515998 | rs11579987 | 165219534 | rs1327866 | 0.422 |
| 1 | rs165214305 | rs7545911 | 165216603 | rs6682062 | 1.000 |
| 1 | rs165214305 | rs7545911 | 165218493 | rs6688613 | 0.790 |
| 1 | rs165214305 | rs7545911 | 165219534 | rs1327866 | 0.790 |
| 1 | rs165216603 | rs6682062 | 165218493 | rs6688613 | 0.790 |
| 1 | rs165216603 | rs6682062 | 165219534 | rs1327866 | 0.790 |
| 1 | rs165218493 | rs6688613 | 165219534 | rs1327866 | 1.000 |
| 1 | rs165323807 | rs12133491 | 165333233 | rs10127714 | 0.331 |
| 1 | rs165562462 | rs6427082 | 165568622 | rs10918683 | 0.404 |
| 1 | rs167457279 | rs6688139 | 167466049 | rs6703463 | 0.990 |
| 1 | rs167457279 | rs6688139 | 167547862 | rs1856303 | 0.372 |
| 1 | rs167466049 | rs6703463 | 167547862 | rs1856303 | 0.360 |
| 1 | rs170459926 | rs41516352 | 170460291 | rs12411264 | 0.942 |
| 1 | rs170459926 | rs41516352 | 170475494 | rs4072117 | 0.928 |
| 1 | rs170460291 | rs12411264 | 170475494 | rs4072117 | 0.985 |
| 1 | rs170943797 | rs10798178 | 170995569 | rs859627 | 0.269 |
| 1 | rs173562004 | rs10912957 | 173565216 | rs10489322 | 0.982 |
| 1 | rs173818063 | rs4570382 | 173833340 | rs12065732 | 0.353 |
| 1 | rs174720725 | rs2206503 | 174784152 | rs2206511 | 0.271 |
| 1 | rs175569595 | rs4652245 | 175571563 | rs4140633 | 0.459 |
| 1 | rs175569595 | rs4652245 | 175572481 | rs3946142 | 0.829 |
| 1 | rs175569595 | rs4652245 | 175580821 | rs6658794 | 0.611 |
| 1 | rs175571563 | rs4140633 | 175572481 | rs3946142 | 0.663 |
| 1 | rs175571563 | rs4140633 | 175580821 | rs6658794 | 0.349 |
| 1 | rs175572481 | rs3946142 | 175580821 | rs6658794 | 0.667 |
| 1 | rs177726177 | rs6674086 | 177726299 | rs6674274 | 0.681 |
| 1 | rs177726177 | rs6674086 | 177763642 | rs964983 | 0.967 |
| 1 | rs177726177 | rs6674086 | 177784337 | rs11577538 | 0.604 |
| 1 | rs177726177 | rs6674086 | 177828766 | rs4652420 | 0.213 |
| 1 | rs177726299 | rs6674274 | 177763642 | rs964983 | 0.669 |
| 1 | rs177726299 | rs6674274 | 177784337 | rs11577538 | 0.426 |
| 1 | rs177726299 | rs6674274 | 177828766 | rs4652420 | 0.328 |
| 1 | rs177726299 | rs6674274 | 177835711 | rs4652424 | 0.217 |
| 1 | rs177763642 | rs964983 | 177784337 | rs11577538 | 0.651 |
| 1 | rs177763642 | rs964983 | 177828766 | rs4652420 | 0.211 |
| 1 | rs177814890 | rs1887816 | 177818275 | rs1887814 | 0.752 |
| 1 | rs177828766 | rs4652420 | 177835711 | rs4652424 | 0.366 |
| 1 | rs178971588 | rs7548318 | 178999746 | rs2331886 | 0.723 |
| 1 | rs179836514 | rs4651109 | 179863063 | rs199940 | 0.463 |
| 1 | rs181856005 | rs16861243 | 181904975 | rs9633306 | 0.856 |
| 1 | rs181856005 | rs16861243 | 181924722 | rs12088165 | 0.892 |
| rsID     | rsID     | rsID     | rsID     |
|----------|----------|----------|----------|
| 181904975 | rs9633306 | 181924722 | rs12088165 | 0.807 |
| 185301683 | rs10911991 | 185321946 | rs17545182 | 0.246 |
| 187265926 | rs10921118 | 187447701 | rs1342554 | 0.386 |
| 187265926 | rs10921118 | 187885135 | rs499557 | 0.220 |
| 187885135 | rs499557 | 187927195 | rs494978 | 0.899 |
| 188508873 | rs10800939 | 188547582 | rs505600 | 0.831 |
| 188789599 | rs814953 | 188929461 | rs1325220 | 0.361 |
| 191920912 | rs7541624 | 191930411 | rs1416599 | 0.221 |
| 191920912 | rs7541624 | 191944757 | rs16835697 | 0.255 |
| 191920912 | rs7541624 | 191949253 | rs16835697 | 0.236 |
| 191920912 | rs7541624 | 191967952 | rs7527158 | 0.231 |
| 191920912 | rs7541624 | 191968573 | rs6673280 | 0.244 |
| 191930411 | rs1416599 | 191944757 | rs12024767 | 0.852 |
| 191930411 | rs1416599 | 191949253 | rs16835697 | 0.216 |
| 191930411 | rs1416599 | 191967952 | rs7527158 | 0.800 |
| 191930411 | rs1416599 | 191968573 | rs6673280 | 0.845 |
| 191944757 | rs12024767 | 191949253 | rs16835697 | 0.255 |
| 191944757 | rs12024767 | 191967952 | rs7527158 | 0.925 |
| 191944757 | rs12024767 | 191968573 | rs6673280 | 0.982 |
| 191949253 | rs16835697 | 192021429 | rs41516151 | 0.235 |
| 191949253 | rs16835697 | 192021429 | rs41516151 | 0.884 |
| 191967952 | rs7527158 | 192021429 | rs41516151 | 0.216 |
| 191968573 | rs6673280 | 192021429 | rs41516151 | 0.225 |
| 193431315 | rs591575 | 193528686 | rs17661321 | 0.567 |
| 194126300 | rs3010143 | 194131227 | rs3008578 | 0.896 |
| 194126300 | rs3010143 | 194139079 | rs3010149 | 0.587 |
| 194126300 | rs3010143 | 194141413 | rs1451920 | 0.386 |
| 194126300 | rs3010143 | 194142828 | rs3010151 | 0.844 |
| 194131227 | rs3008578 | 194139079 | rs3010149 | 0.651 |
| 194131227 | rs3008578 | 194141413 | rs1451920 | 0.397 |
| 194131227 | rs3008578 | 194142828 | rs3010151 | 0.854 |
| 194139079 | rs3010149 | 194141413 | rs1451920 | 0.232 |
| 194139079 | rs3010149 | 194142828 | rs3010151 | 0.574 |
| 194141413 | rs1451920 | 194142828 | rs3010151 | 0.419 |
| 197142881 | rs1322916 | 197209638 | rs2154328 | 0.290 |
| 197181925 | rs12048004 | 197209638 | rs2154328 | 0.215 |
| 199153514 | rs404339 | 199186985 | rs11579874 | 0.862 |
| 199379604 | rs8158 | 199383377 | rs6664337 | 0.947 |
| 199464431 | rs12466 | 199533697 | rs2268156 | 0.248 |
| 202390294 | rs11571093 | 202406807 | rs16853059 | 0.266 |
| 202398933 | rs10900555 | 202416146 | rs10900558 | 0.649 |
| 202398933 | rs10900555 | 202423791 | rs4951315 | 0.580 |
|   | rs10900555 | rs10900555 | rs12097666 | 0.324 |
|---|------------|------------|------------|-------|
| 1 | 202398933  | 202398933  | 202427649  | rs7538038 | 0.324 |
| 1 | 202398933  | 202428835  | 202398933  | rs12097666 | 0.339 |
| 1 | 202416146  | 202427649  | 202427649  | rs7538038 | 0.402 |
| 1 | 202416146  | 202428835  | 202428835  | rs12097666 | 0.420 |
| 1 | 202423791  | 202427649  | 202428835  | rs12097666 | 0.420 |
| 1 | 202423791  | 202428835  | 202428835  | rs12097666 | 0.364 |
| 1 | 202427649  | 202428835  | 202428835  | rs12097666 | 0.860 |
| 1 | 203874776  | 203874776  | 203874776  | rs11581303 | 0.236 |
| 1 | 203991651  | 203991651  | 203991651  | rs2451696 | 0.904 |
| 1 | 207534835  | 207534835  | 207534835  | rs108639 | 0.597 |
| 1 | 210992052  | 210992052  | 210992052  | rs1507357 | 1.000 |
| 1 | 211011500  | 211011500  | 211011500  | rs6687672 | 0.744 |
| 1 | 211159262  | 211159262  | 211159262  | rs870547 | 0.965 |
| 1 | 211159262  | 211159262  | 211159262  | rs870547 | 0.932 |
| 1 | 211159262  | 211159262  | 211159262  | rs870547 | 0.949 |
| 1 | 211159262  | 211159262  | 211159262  | rs870547 | 0.965 |
| 1 | 211159262  | 211159262  | 211159262  | rs870547 | 0.932 |
| 1 | 213202375  | 213202375  | 213202375  | rs6667184 | 0.293 |
| 1 | 213202375  | 213202375  | 213202375  | rs1452623 | 0.358 |
| 1 | 213202375  | 213202375  | 213202375  | rs562410 | 0.566 |
| 1 | 213202375  | 213202375  | 213202375  | rs1377173 | 0.231 |
| 1 | 213265201  | 213265201  | 213265201  | rs1377173 | 0.245 |
| 1 | 213265201  | 213265201  | 213265201  | rs1377173 | 0.259 |
| 1 | 213265201  | 213265201  | 213265201  | rs1377173 | 0.259 |
| 1 | 213446975  | 213446975  | 213446975  | rs12753507 | 0.668 |
| 1 | 213446975  | 213446975  | 213446975  | rs12753507 | 0.670 |
| 1 | 213446975  | 213446975  | 213446975  | rs12753507 | 0.670 |
| 1 | 213446975  | 213446975  | 213446975  | rs12753507 | 0.646 |
| 1 | 213482243  | 213482243  | 213482243  | rs946489 | 0.802 |
| 1 | 213482243  | 213482243  | 213482243  | rs946489 | 0.802 |
| 1 | 213482243  | 213482243  | 213482243  | rs946489 | 0.802 |
| 1 | 213484064  | 213484064  | 213484064  | rs10864169 | 1.000 |
| 1 | 213484064  | 213484064  | 213484064  | rs10864169 | 1.000 |
| 1 | 213484064  | 213484064  | 213484064  | rs10864169 | 1.000 |
| 1 | 213484064  | 213484064  | 213484064  | rs10864169 | 1.000 |
| 1 | 213484064  | 213484064  | 213484064  | rs10864169 | 1.000 |
| 1 | 213484064  | 213484064  | 213484064  | rs10864169 | 1.000 |
| 1 | 213484064  | 213484064  | 213484064  | rs10864169 | 1.000 |
| 1 | 213484064  | 213484064  | 213484064  | rs10864169 | 1.000 |
| 1 | 213484064  | 213484064  | 213484064  | rs10864169 | 1.000 |
| Chrom | Start | SNP | End   | SNP | R² |
|-------|-------|-----|-------|-----|----|
| 1     | 221973921 | rs17557525 | 222033974 | rs12088254 | 0.248 |
| 1     | 221973921 | rs17557525 | 222090357 | rs6678365 | 0.391 |
| 1     | 222033974 | rs12088254 | 222090357 | rs6678365 | 0.529 |
| 1     | 222894120 | rs1603918 | 222897964 | rs7535296 | 0.991 |
| 1     | 222894120 | rs1603918 | 222948451 | rs1436171 | 0.829 |
| 1     | 222894120 | rs1603918 | 222952691 | rs2897161 | 0.914 |
| 1     | 222897964 | rs7535296 | 222948451 | rs1436171 | 0.837 |
| 1     | 222897964 | rs7535296 | 222952691 | rs2897161 | 0.914 |
| 1     | 222897964 | rs7535296 | 222957663 | rs10915699 | 0.838 |
| 1     | 222948451 | rs1436171 | 222952691 | rs2897161 | 0.923 |
| 1     | 222948451 | rs1436171 | 222957663 | rs10915699 | 0.991 |
| 1     | 222952691 | rs2897161 | 222957663 | rs10915699 | 0.933 |
| 1     | 226482124 | rs1629294 | 226490418 | rs2776856 | 0.981 |
| 1     | 226482124 | rs1629294 | 226491223 | rs1757139 | 0.981 |
| 1     | 226482124 | rs1629294 | 226525596 | rs533738 | 0.265 |
| 1     | 226490418 | rs2776856 | 226491223 | rs1757139 | 1.000 |
| 1     | 226490418 | rs2776856 | 226525596 | rs533738 | 0.249 |
| 1     | 226491223 | rs1757139 | 226525596 | rs533738 | 0.249 |
| 1     | 227235445 | rs7517398 | 227281341 | rs545321 | 0.256 |
| 1     | 229986844 | rs17817356 | 229989968 | rs9803690 | 0.312 |
| 2     | 192993   | rs449725  | 253270   | rs10167992 | 0.204 |
| 2     | 2420158  | rs10177243 | 2426972  | rs4853940 | 0.336 |
| 2     | 6083374  | rs2693822 | 6144872  | rs1852317 | 0.348 |
| 2     | 6346425  | rs16865015 | 6352038  | rs4337447 | 0.807 |
| 2     | 6648243  | rs12478619 | 6655887  | rs6749132 | 0.987 |
| 2     | 6648243  | rs12478619 | 6703172  | rs4669090 | 0.643 |
| 2     | 6648243  | rs12478619 | 6705721  | rs6761066 | 0.311 |
| 2     | 6648243  | rs12478619 | 6712276  | rs7564462 | 0.285 |
| 2     | 6655887  | rs6749132  | 6703172  | rs4669090 | 0.653 |
| 2  | 6655887 | rs6749132 | 6705721 | rs6761066 | 0.317 |
|---|---------|-----------|--------|----------|-------|
| 2  | 6655887 | rs6749132 | 6712276 | rs7564462 | 0.271 |
| 2  | 6703172 | rs4669090 | 6705721 | rs6761066 | 0.486 |
| 2  | 6703172 | rs4669090 | 6712276 | rs7564462 | 0.385 |
| 2  | 6705721 | rs6761066 | 6712276 | rs7564462 | 0.342 |
| 2  | 6757301 | rs307972  | 6775281 | rs182537  | 0.385 |
| 2  | 6757301 | rs307972  | 677986  | rs379656  | 0.951 |
| 2  | 6761066 | rs7564462 | 6712276 | rs379656  | 0.967 |
| 2  | 7032516 | rs771256  | 7033528 | rs4669123 | 0.485 |
| 2  | 8703783 | rs11691910| 8705870 | rs4669321 | 0.288 |
| 2  | 9967149 | rs12479251| 9982242 | rs17364189| 0.492 |
| 2  | 11478414| rs7602665 | 11501448| rs6432193 | 0.217 |
| 2  | 11479223| rs6743597 | 11501448| rs6432193 | 0.228 |
| 2  | 12188138| rs6720015 | 12190544| rs6432193 | 0.282 |
| 2  | 14405331| rs17344070| 14475445| rs1976727 | 0.235 |
| 2  | 15111625| rs10185181| 15111754| rs12466657| 0.577 |
| 2  | 15111625| rs10185181| 15112010| rs1430804 | 0.990 |
| 2  | 15111754| rs12466657| 15112010| rs1430804 | 0.577 |
| 2  | 15395815| rs6431692 | 15509470| rs6723148 | 0.535 |
| 2  | 15948018| rs2254328 | 15948478| rs746104  | 0.463 |
| 2  | 16472596| rs4832592 | 16519793| rs6729772 | 0.261 |
| 2  | 18667353| rs17752832| 18729707| rs16985416| 0.381 |
| 2  | 20138384| rs1466418 | 20138874| rs10178084| 0.962 |
| 2  | 21236291| rs527034  | 21252721| rs478442  | 0.954 |
| 2  | 22407217| rs6743484 | 22466143| rs1396725 | 0.451 |
| 2  | 23449055| rs2577698 | 23449391| rs2954818 | 0.959 |
| 2  | 23464343| rs11125011| 23469562| rs6742888 | 0.528 |
| 2  | 24586072| rs11125629| 24767629| rs2119120 | 0.226 |
| 2  | 24586072| rs11125629| 24892380| rs934609  | 0.656 |
| 2  | 26677750| rs1276123 | 27294806| rs1275537 | 0.201 |
| 2  | 26765249| rs1275985 | 26765583| rs1275986 | 0.991 |
| 2  | 27872679| rs4666014 | 2820753 | rs7608642 | 0.217 |
| 2  | 28195657| rs1948922 | 28211838| rs13408504| 0.592 |
| 2  | 28195657| rs1948922 | 28211983| rs11127133| 0.800 |
| 2  | 28195657| rs1948922 | 28220753 | rs7608642 | 0.543 |
| 2  | 28211838| rs13408504| 28211983| rs11127133| 0.814 |
| 2  | 28211838| rs13408504| 28220753 | rs7608642 | 0.940 |
| 2  | 28221983| rs11127133| 28220753 | rs7608642 | 0.751 |
| 2  | 29555940| rs3885975 | 29580732| rs10445907| 0.290 |
| 2  | 29895721| rs10187657| 29928397| rs4473347 | 0.210 |
| 2  | 30758021| rs2609938 | 30838175| rs6548031 | 0.430 |
| 2  | 30758021| rs2609938 | 31241433| rs12620887| 0.256 |
| 2  | 30838175| rs6548031 | 31241433| rs12620887| 0.318 |
| 2  | 31935601| rs10490358| 32009898| rs17011711| 0.919 |
| 2    | 36543597 | rs3770866 | 36543746 | rs848534 | 0.481 |
| 2    | 37611381 | rs4430920 | 37616264 | rs4538180 | 0.918 |
| 2    | 39079775 | rs6544186 | 39385585 | rs7595469 | 0.433 |
| 2    | 39079775 | rs6544186 | 39952885 | rs6727511 | 0.218 |
| 2    | 39385585 | rs7595469 | 39952885 | rs6727511 | 0.235 |
| 2    | 41414230 | rs6750424 | 41468994 | rs6544414 | 0.640 |
| 2    | 41871478 | rs7603589 | 41894842 | rs7599972 | 0.504 |
| 2    | 41871478 | rs7603589 | 41900097 | rs12471624 | 0.480 |
| 2    | 41871478 | rs7603589 | 41902588 | rs11689557 | 0.392 |
| 2    | 41871478 | rs7603589 | 41909614 | rs1412227 | 0.351 |
| 2    | 41871478 | rs7603589 | 41922400 | rs11692115 | 0.609 |
| 2    | 41894842 | rs7599972 | 41896380 | rs12471624 | 0.283 |
| 2    | 41894842 | rs7599972 | 41902588 | rs11689557 | 0.690 |
| 2    | 41894842 | rs7599972 | 41909614 | rs4142227 | 0.676 |
| 2    | 41894842 | rs7599972 | 41922400 | rs11692115 | 0.293 |
| 2    | 41896380 | rs10193285 | 41900097 | rs12471624 | 0.991 |
| 2    | 41896380 | rs10193285 | 41922400 | rs11692115 | 0.277 |
| 2    | 41900097 | rs12471624 | 41922400 | rs11692115 | 0.250 |
| 2    | 41902588 | rs11689557 | 41909614 | rs4142227 | 0.887 |
| 2    | 41902588 | rs11689557 | 41922400 | rs11692115 | 0.273 |
| 2    | 41909614 | rs4142227 | 41922400 | rs11692115 | 0.303 |
| 2    | 42108584 | rs2374382 | 42142611 | rs4952399 | 0.265 |
| 2    | 42108584 | rs2374382 | 42158635 | rs13383145 | 0.343 |
| 2    | 42142611 | rs4952399 | 42158635 | rs13383145 | 0.579 |
| 2    | 42949290 | rs4408769 | 42949492 | rs6722743 | 0.870 |
| 2    | 43633169 | rs1873555 | 43656932 | rs6731009 | 0.902 |
| 2    | 43633169 | rs1873555 | 43660872 | rs11890152 | 0.883 |
| 2    | 43656932 | rs6731009 | 43660872 | rs11890152 | 0.979 |
| 2    | 44258406 | rs13008237 | 44300435 | rs5024499 | 0.850 |
| 2    | 45592549 | rs17322370 | 45623898 | rs748573 | 0.221 |
| 2    | 45597896 | rs10427402 | 45623898 | rs748573 | 0.623 |
| 2    | 47947841 | rs874869 | 48253519 | rs4146603 | 0.286 |
| 2    | 52942850 | rs6746666 | 53072707 | rs1446439 | 0.207 |
| 2    | 54623147 | rs4261758 | 54658913 | rs12713265 | 0.282 |
| 2    | 55036454 | rs10196667 | 55068416 | rs2580770 | 0.402 |
| 2    | 56541768 | rs1465360 | 56542552 | rs13382678 | 0.751 |
| 2    | 56541768 | rs1465360 | 56651833 | rs1991185 | 0.616 |
| 2    | 56542552 | rs13382678 | 56631513 | rs10208385 | 0.691 |
| 2    | 56542552 | rs13382678 | 56651833 | rs1991185 | 0.539 |
| 2    | 56631513 | rs10208385 | 56651833 | rs1991185 | 0.770 |
| 2    | 56931249 | rs6741957 | 57151802 | rs12478403 | 0.215 |
| Position | SNP 1   | Position | SNP 2   | Position | SNP 3   |
|---------|---------|---------|---------|---------|---------|
| 2       | 70718658 | rs11903352 | 70718791 | rs1859919 | 1.000   |
| 2       | 70718658 | rs11903352 | 70719422 | rs1859920 | 0.991   |
| 2       | 70718658 | rs11903352 | 70725313 | rs6713842 | 0.521   |
| 2       | 70718658 | rs11903352 | 70727597 | rs2108479 | 0.488   |
| 2       | 70718658 | rs11903352 | 70732192 | rs12617676 | 0.704   |
| 2       | 70718791 | rs1859919 | 70719422 | rs1859920 | 0.991   |
| 2       | 70718791 | rs1859919 | 70725313 | rs6713842 | 0.521   |
| 2       | 70718791 | rs1859919 | 70727597 | rs2108479 | 0.488   |
| 2       | 70718791 | rs1859919 | 70732192 | rs12617676 | 0.704   |
| 2       | 70719422 | rs1859920 | 70727597 | rs2108479 | 0.500   |
| 2       | 70725313 | rs6713842 | 70732192 | rs12617676 | 0.556   |
| 2       | 70727597 | rs2108479 | 70732192 | rs12617676 | 0.480   |
| 2       | 71534140 | rs6546693 | 71546325 | rs13431785 | 0.241   |
| 2       | 72031795 | rs908611 | 72041872 | rs6752766 | 0.418   |
| 2       | 74844393 | rs7574100 | 74865835 | rs6546923 | 0.773   |
| 2       | 75736164 | rs1049678 | 75746345 | rs3213670 | 0.402   |
| 2       | 76612596 | rs10193916 | 76615993 | rs1921254 | 0.897   |
| 2       | 80429338 | rs6711603 | 80471916 | rs13396392 | 0.650   |
| 2       | 81519665 | rs11887827 | 81544091 | rs12468325 | 1.000   |
| 2       | 81519665 | rs11887827 | 81626505 | rs6715049 | 0.961   |
| 2       | 81544091 | rs12468325 | 81626505 | rs6715049 | 0.961   |
| 2       | 82079119 | rs1521694 | 82081198 | rs909045 | 0.989   |
| 2       | 82905461 | rs17022516 | 82922840 | rs17022549 | 0.959   |
| 2       | 88399634 | rs1258407 | 88400714 | rs1258407 | 1.000   |
| 2       | 99252733 | rs1955393 | 99254889 | rs901596 | 1.000   |
| 2       | 99760452 | rs13419977 | 99762971 | rs6755935 | 0.979   |
| 2       | 100566861 | rs2970990 | 100567880 | rs2309846 | 0.595   |
| 2       | 102375786 | rs1420097 | 102375969 | rs4851004 | 0.992   |
| 2       | 102375786 | rs1420097 | 102377020 | rs2287034 | 0.430   |
| 2       | 102375969 | rs4851004 | 102377020 | rs2287034 | 0.434   |
| 2       | 105097181 | rs4266037 | 105097307 | rs4271787 | 0.969   |
| 2       | 108152299 | rs1563119 | 108230082 | rs9646947 | 0.779   |
| 2       | 112457764 | rs10180345 | 112486605 | rs11683409 | 0.682   |
| 2       | 113552819 | rs6759676 | 113553887 | rs7574787 | 0.203   |
| 2       | 113553887 | rs7574787 | 113565045 | rs4849152 | 0.291   |
| 2       | 118228304 | rs4848465 | 118235289 | rs7559497 | 0.384   |
| 2       | 118624828 | rs3849331 | 118644190 | rs11123476 | 0.259   |
| 2       | 118624828 | rs3849331 | 118663113 | rs4849683 | 0.269   |
| 2       | 118644190 | rs11123476 | 118663113 | rs4849683 | 0.893   |
| 2       | 119266362 | rs17006624 | 119298975 | rs17006964 | 0.220   |
| 2       | 121419389 | rs1466042 | 121767700 | rs753727 | 0.235   |
|     | rs1466042 | 122198612 | rs7581005 | 0.244 |
|-----|-----------|-----------|-----------|-------|
|     | rs753727  | 122198612 | rs7581005 | 0.207 |
|     | rs10460462| 122317772 | rs10460453| 0.937 |
|     | rs2091427 | 123042613 | rs11122916| 0.977 |
|     | rs2091427 | 123106758 | rs12474979| 0.246 |
|     | rs11122916| 123106758 | rs12474979| 0.242 |
|     | rs893743  | 123188589 | rs12619304| 0.694 |
|     | rs893743  | 123206763 | rs7607585 | 0.647 |
|     | rs893743  | 123206801 | rs17008553| 0.647 |
|     | rs12619304| 123206763 | rs7607585 | 0.936 |
|     | rs12619304| 123206801 | rs17008553| 0.936 |
|     | rs7607585 | 123206801 | rs17008553| 1.000 |
|     | rs17008879| 123379760 | rs1850585 | 0.340 |
|     | rs13009000| 123825683 | rs993934  | 0.248 |
|     | rs41393446| 125997677 | rs4849019 | 0.263 |
|     | rs17013415| 126711318 | rs451639  | 0.312 |
|     | rs11695820| 127000106 | rs10173017| 0.365 |
|     | rs3856370 | 129485802 | rs17049013| 0.274 |
|     | rs17049013| 129560995 | rs1519446 | 0.222 |
|     | rs6430737 | 131874454 | rs941325  | 0.416 |
|     | rs7592519 | 134307196 | rs7607165 | 0.903 |
|     | rs10928469| 134414690 | rs13409218| 0.316 |
|     | rs16855680| 137058414 | rs12691894| 0.226 |
|     | rs6713475 | 137696788 | rs4610107 | 0.291 |
|     | rs6713475 | 137696948 | rs4954485 | 0.553 |
|     | rs17755242| 139631252 | rs1029794 | 0.486 |
|     | rs17755242| 139709212 | rs4954757 | 0.905 |
|     | rs13029794| 139709212 | rs4954757 | 0.475 |
|     | rs344696  | 139920877 | rs10200212| 0.368 |
|     | rs344696  | 139921301 | rs17712931| 0.423 |
|     | rs344696  | 140141111 | rs2376454 | 0.201 |
|     | rs7604667 | 139920877 | rs10200212| 0.258 |
|     | rs7604667 | 139921301 | rs17712931| 0.211 |
|     | rs7604667 | 139921301 | rs17712931| 0.866 |
|     | rs10200212| 139921301 | rs17712931| 0.364 |
|     | rs11712931| 140141111 | rs2376454 | 0.403 |
|     | rs10209173| 141099297 | rs547663  | 0.214 |
|     | rs7601098 | 148393603 | rs16828024| 0.207 |
|     | rs1526285 | 150254854 | rs16827337| 0.494 |
|     | rs10932484| 155963884 | rs4664173 | 0.984 |
|     | rs7588696 | 160780790 | rs1350313 | 0.874 |
|     | rs1267031 | 161857779 | rs6720056 | 1.000 |
|     | rs490463  | 166695014 | rs17745411| 0.491 |
|     | rs17745411| 166728262 | rs4341952 | 0.232 |
| Chr | Start   | End     | Distance | rsID      | Start   | End     | Distance | rsID      |
|-----|---------|---------|----------|-----------|---------|---------|----------|-----------|
| 2   | 168928347 | rs2044958 | 168928396 | rs2044959 | 0.988   |
| 2   | 168928347 | rs2044958 | 168928713 | rs41342544 | 1.000   |
| 2   | 168928396 | rs2044959 | 169552855 | rs6759156 | 0.398   |
| 2   | 169538297 | rs2389605 | 169589746 | rs1340236 | 0.261   |
| 2   | 169552855 | rs6759156 | 169589746 | rs1340236 | 0.389   |
| 2   | 170833364 | rs3914752 | 170837608 | rs908782  | 0.265   |
| 2   | 173640508 | rs7573673 | 173673302 | rs6758859 | 0.562   |
| 2   | 173640508 | rs7573673 | 173800841 | rs16861393 | 0.273   |
| 2   | 174640083 | rs2044470 | 174682842 | rs10930638 | 0.211   |
| 2   | 174640083 | rs2044470 | 174688585 | rs17239377 | 0.210   |
| 2   | 175310212 | rs935866  | 175310260 | rs2123117 | 0.982   |
| 2   | 175310212 | rs935866  | 175349821 | rs2244340 | 0.389   |
| 2   | 175310260 | rs2123117 | 175349821 | rs2244340 | 0.377   |
| 2   | 177357008 | rs10177590 | 177364678 | rs6759156 | 0.958   |
| 2   | 180649047 | rs10497556 | 180653374 | rs16861393 | 0.273   |
| 2   | 181846802 | rs7566314 | 181883021 | rs17365432 | 0.818   |
| 2   | 181846802 | rs7566314 | 181897795 | rs1371619 | 0.396   |
| 2   | 181883021 | rs17365432 | 181897795 | rs1371619 | 0.509   |
| 2   | 181897795 | rs1371619 | 181950150 | rs959633  | 0.958   |
| 2   | 182165046 | rs16867450 | 182168626 | rs16867452 | 1.000   |
| 2   | 185991563 | rs17331619 | 186246637 | rs11693975 | 0.464   |
| 2   | 186360004 | rs1019429 | 186373677 | rs36004074 | 0.894   |
| 2   | 186360004 | rs1019429 | 186380157 | rs1862066 | 0.894   |
| 2   | 186373677 | rs36004074 | 186374069 | rs11695215 | 0.894   |
| 2   | 186373677 | rs36004074 | 186380157 | rs1862066 | 1.000   |
| 2   | 186374069 | rs11695215 | 186380157 | rs1862066 | 1.000   |
| 2   | 186629611 | rs10804002 | 186780020 | rs4461230 | 0.309   |
| 2   | 186629611 | rs10804002 | 187200987 | rs10174098 | 0.229   |
| 2   | 187397582 | rs7595459 | 187398066 | rs7598838 | 1.000   |
| 2   | 187397582 | rs7595459 | 187422167 | rs6726153 | 0.705   |
| 2   | 187398066 | rs7598838 | 187422167 | rs6726153 | 0.705   |
| 2   | 191253392 | rs2192008 | 191293520 | rs6434412 | 0.302   |
| 2   | 191253392 | rs2192008 | 191449442 | rs11687659 | 0.349   |
| 2   | 191293520 | rs6434412 | 191449442 | rs11687659 | 0.478   |
| 2   | 191293520 | rs6434412 | 191546449 | rs6718902 | 0.399   |
| 2   | 191449442 | rs11687659 | 191546449 | rs6718902 | 0.321   |
| 2   | 196192437 | rs1554168 | 196288141 | rs16842044 | 0.306   |
| 2   | 196983848 | rs7593761 | 197007679 | rs7590951 | 0.701   |
| 2   | 197158863 | rs10167169 | 197194201 | rs7572953 | 0.414   |
| 2   | 199583342 | rs1598656 | 199776297 | rs10804088 | 0.377   |
| 2   | 202288513 | rs10469756 | 202305680 | rs12470229 | 0.847   |
| rsID   | Gene     | Position | Allele 1 | Allele 2 | P-Value |
|--------|----------|----------|----------|----------|---------|
| rs1921797 | 205795364 | 205795592 | rs1435850 | 0.891    | 0.891   |
| rs1921797 | 205795364 | 205795592 | rs996682  | 0.891    | 0.891   |
| rs1921797 | 205795364 | 205795592 | rs996682  | 0.891    | 0.891   |
| rs1921797 | 205795364 | 205795592 | rs996682  | 0.891    | 0.891   |
| rs1921797 | 205795364 | 205795592 | rs996682  | 0.891    | 0.891   |
| rs1921797 | 205795364 | 205795592 | rs996682  | 0.891    | 0.891   |
| rs1921797 | 205795364 | 205795592 | rs996682  | 0.891    | 0.891   |
| rs1921797 | 205795364 | 205795592 | rs996682  | 0.891    | 0.891   |
| rs1921797 | 205795364 | 205795592 | rs996682  | 0.891    | 0.891   |

*Note: The above table lists SNPs and their associated P-values. The SNPs are ordered by their position on the genome.*
| Chromosome | SNP1 | SNP2 | SNP3 | SNP4 | P-value |
|------------|------|------|------|------|---------|
| 2          | 229098461 | rs975519 | 229166212 | rs41330849 | 0.418   |
| 2          | 229102479 | rs9288635 | 229124541 | rs918896 | 0.400   |
| 2          | 229102479 | rs9288635 | 229139165 | rs1435850 | 0.868   |
| 2          | 229102479 | rs9288635 | 229166212 | rs41330849 | 0.392   |
| 2          | 229124541 | rs918896 | 229139165 | rs1435850 | 0.305   |
| 2          | 229124541 | rs918896 | 229166212 | rs41330849 | 0.852   |
| 2          | 229139165 | rs1435850 | 229166212 | rs41330849 | 0.386   |
| 2          | 230304596 | rs12468084 | 230461208 | rs546530 | 0.839   |
| 2          | 230304596 | rs12468084 | 230528844 | rs6757156 | 0.352   |
| 2          | 230461208 | rs546530 | 230528844 | rs6757156 | 0.408   |
| 2          | 230734072 | rs16826767 | 230734362 | rs6757156 | 0.910   |
| 2          | 232857983 | rs11901692 | 232867061 | rs6746834 | 0.913   |
| 2          | 233080644 | rs1881495 | 233126885 | rs3791725 | 0.402   |
| 2          | 233578610 | rs1104953 | 233580344 | rs4663470 | 0.559   |
| 2          | 235229041 | rs6715142 | 235230882 | rs11687004 | 0.854   |
| 2          | 235230882 | rs11687004 | 235252279 | rs4663470 | 0.559   |
| 2          | 235230882 | rs11687004 | 235252279 | rs4663470 | 0.457   |
| 2          | 238132139 | rs2875729 | 238157857 | rs6431547 | 0.252   |
| 2          | 238898471 | rs4663304 | 239138174 | rs4663907 | 0.295   |
| 2          | 239180160 | rs12619578 | 239233691 | rs1397328 | 0.383   |
| 2          | 239180160 | rs12619578 | 239252712 | rs7558129 | 0.321   |
| 2          | 239233691 | rs1397328 | 239252712 | rs7558129 | 0.931   |
| 2          | 240888050 | rs12619578 | 240891998 | rs12474682 | 0.688   |
| 2          | 240888050 | rs12619578 | 240891998 | rs12474682 | 1.000   |
| 3          | 853511    | rs12495737 | 883745 | rs12637032 | 0.563   |
| 3          | 7595382   | rs7614915 | 7595828 | rs1485174 | 0.987   |
| 3          | 8455539   | rs1695564 | 8465918 | rs358270 | 0.757   |
| 3          | 8455539   | rs1695564 | 8467724 | rs358267 | 0.758   |
| 3          | 8455539   | rs1695564 | 8469627 | rs1038483 | 0.564   |
| 3          | 8455539   | rs1695564 | 8519420 | rs9861544 | 0.267   |
| 3          | 8455539   | rs1695564 | 8533515 | rs4143966 | 0.337   |
| 3          | 8455539   | rs1695564 | 8537637 | rs1947220 | 0.312   |
| 3          | 8455539   | rs1695564 | 8543956 | rs1493588 | 0.230   |
| 3          | 8465918   | rs358270 | 8467724 | rs358267 | 0.981   |
| 3          | 8465918   | rs358270 | 8469627 | rs1038483 | 0.753   |
| 3          | 8465918   | rs358270 | 8533515 | rs4143966 | 0.242   |
| 3          | 8465918   | rs358270 | 8537637 | rs1947220 | 0.222   |
| 3          | 8465918   | rs358270 | 8543956 | rs1493588 | 0.201   |
| 3          | 8465918   | rs358270 | 8545874 | rs9810512 | 0.210   |
| 3          | 8467724   | rs358267 | 8469627 | rs1038483 | 0.748   |
| 3          | 8467724   | rs358267 | 8519420 | rs9861544 | 0.206   |
| 3          | 8467724   | rs358267 | 8533515 | rs4143966 | 0.249   |
| 3          | 8467724   | rs358267 | 8537637 | rs1947220 | 0.229   |
| 3          | 8467724   | rs358267 | 8543956 | rs1493588 | 0.204   |
| ID     | rsID     | Value 1 | Value 2 | Value 3 | Value 4 |
|--------|----------|---------|---------|---------|---------|
| 3      | 8467724  | rs358267| 8545874 | rs9810512 | 0.213   |
| 3      | 8469627  | rs1038483| 8519420 | rs9861544 | 0.266   |
| 3      | 8469627  | rs1038483| 8533515 | rs4143966 | 0.305   |
| 3      | 8469627  | rs1038483| 8537637 | rs1947220 | 0.288   |
| 3      | 8469627  | rs1038483| 8543956 | rs1493588 | 0.270   |
| 3      | 8469627  | rs1038483| 8545874 | rs9810512 | 0.280   |
| 3      | 8519420  | rs9861544| 8524665 | rs1994876 | 0.321   |
| 3      | 8519420  | rs9861544| 8533515 | rs4143966 | 0.472   |
| 3      | 8519420  | rs9861544| 8537637 | rs1947220 | 0.455   |
| 3      | 8519420  | rs9861544| 8543956 | rs1493588 | 0.401   |
| 3      | 8519420  | rs9861544| 8545874 | rs9810512 | 0.410   |
| 3      | 8524665  | rs1994876| 8533515 | rs4143966 | 0.498   |
| 3      | 8524665  | rs1994876| 8537637 | rs1947220 | 0.474   |
| 3      | 8524665  | rs1994876| 8543956 | rs1493588 | 0.630   |
| 3      | 8524665  | rs1994876| 8545874 | rs9810512 | 0.617   |
| 3      | 8533515  | rs4143966| 8537637 | rs1947220 | 0.936   |
| 3      | 8533515  | rs4143966| 8543956 | rs1493588 | 0.757   |
| 3      | 8533515  | rs4143966| 8545874 | rs9810512 | 0.781   |
| 3      | 8537637  | rs1947220| 8543956 | rs1493588 | 0.774   |
| 3      | 8537637  | rs1947220| 8545874 | rs9810512 | 0.798   |
| 3      | 8543956  | rs1493588| 8545874 | rs9810512 | 0.980   |
| 3      | 8614568  | rs371734 | 8620740 | rs9878735 | 0.419   |
| 3      | 9016299  | rs486012 | 9021906 | rs341795  | 0.932   |
| 3      | 9016299  | rs486012 | 9025659 | rs341788  | 0.423   |
| 3      | 9021906  | rs341795 | 9025659 | rs341788  | 0.415   |
| 3      | 9098116  | rs2669986| 9111060 | rs531719  | 0.684   |
| 3      | 9677755  | rs6809387| 9711452 | rs12490544| 0.583   |
| 3      | 13882158 | rs6442417| 14159670| rs8516    | 0.224   |
| 3      | 16164025 | rs10510446| 16168521| rs2657589 | 0.972   |
| 3      | 17311423 | rs283907 | 17477922| rs7644389 | 0.895   |
| 3      | 19019071 | rs7433351| 19022444| rs7433126 | 1.000   |
| 3      | 19019071 | rs7433351| 19025360| rs6550864 | 0.809   |
| 3      | 19019071 | rs7433351| 19025817| rs7638224 | 0.986   |
| 3      | 19019071 | rs7433351| 19058788| rs9681366 | 0.844   |
| 3      | 19019071 | rs7433351| 19066516| rs13090408| 0.804   |
| 3      | 19019071 | rs7433351| 19092122| rs7612947 | 0.920   |
| 3      | 19022444 | rs7433126| 19025360| rs6550864 | 0.844   |
| 3      | 19022444 | rs7433126| 19025817| rs7638224 | 0.820   |
| 3      | 19025360 | rs6550864| 19058788| rs9681366 | 0.956   |
| 3      | 19025360 | rs6550864| 19066516| rs13090408| 0.912   |
|   | 3              | rs6550864 | 19092122 | rs7612947 | 0.779 |
|---|----------------|-----------|----------|-----------|-------|
| 3 | 19025817       | rs7638224 | 19058788 | rs9681366 | 0.856 |
| 3 | 19025817       | rs7638224 | 19066516 | rs13090408 | 0.815 |
| 3 | 19025817       | rs7638224 | 19092122 | rs7612947 | 0.933 |
| 3 | 19058788       | rs9681366 | 19066516 | rs13090408 | 0.956 |
| 3 | 19058788       | rs9681366 | 19092122 | rs7612947 | 0.841 |
| 3 | 19066516       | rs13090408 | 19092122 | rs7612947 | 0.853 |
| 3 | 20440212       | rs6793327 | 20499811 | rs9681366 | 0.856 |
| 3 | 22275887       | rs2728988 | 22309107 | rs1491881 | 0.344 |
| 3 | 25450886       | rs4681024 | 25499811 | rs6772140 | 0.557 |
| 3 | 30970990       | rs1494741 | 31002768 | rs6772140 | 0.557 |
| 3 | 33545331       | rs9817055 | 33780565 | rs9311026 | 0.373 |
| 3 | 34915736       | rs885314  | 34950049 | rs11129626 | 0.381 |
| 3 | 34950049       | rs11129626 | 35052013 | rs17032625 | 0.381 |
| 3 | 36652151       | rs999745  | 36656030 | rs5009838 | 0.272 |
| 3 | 36652151       | rs999745  | 36656248 | rs11710386 | 0.573 |
| 3 | 36656030       | rs5009838 | 36656248 | rs11710386 | 0.471 |
| 3 | 38103093       | rs17037369 | 38119879 | rs6599263 | 0.540 |
| 3 | 38160178       | rs6767684 | 38287376 | rs3805040 | 0.344 |
| 3 | 38734720       | rs9311196 | 38764283 | rs12491593 | 0.762 |
| 3 | 40160639       | rs4132209 | 40170210 | rs2679807 | 0.565 |
| 3 | 45971505       | rs4388012 | 46099422 | rs17215981 | 0.916 |
| 3 | 46241730       | rs11919943 | 46479320 | rs9862388 | 0.218 |
| 3 | 47842731       | rs3772399 | 47859957 | rs319694  | 0.921 |
| 3 | 48299470       | rs9837228 | 48345773 | rs13090538 | 0.711 |
| 3 | 54364155       | rs1530733 | 54459140 | rs6445664 | 0.371 |
| 3 | 54431818       | rs9817603 | 54459140 | rs6445664 | 0.312 |
| 3 | 54916481       | rs9808962 | 54916618 | rs1918070 | 1.000 |
| 3 | 54946579       | rs2048805 | 54962963 | rs3821659 | 0.834 |
| 3 | 55671242       | rs2702139 | 55685495 | rs815416  | 0.467 |
| 3 | 56116883       | rs7647972 | 56233367 | rs1452220 | 0.729 |
| 3 | 56116883       | rs7647972 | 56245378 | rs9873480 | 0.526 |
| 3 | 56123924       | rs9874662 | 56129715 | rs17056472 | 0.700 |
| 3 | 56123924       | rs9874662 | 56130461 | rs7625422 | 0.669 |
| 3 | 56129715       | rs17056472 | 56130461 | rs7625422 | 0.923 |
| 3 | 56233367       | rs1452220 | 56245378 | rs9873480 | 0.760 |
| 3 | 58136814       | rs2178773 | 58171883 | rs6807301 | 0.388 |
| 3 | 62187107       | rs4072198 | 62256476 | rs2242352 | 0.251 |
| 3 | 62187107       | rs4072198 | 62279360 | rs9883112 | 0.345 |
| 3 | 62256476       | rs2242352 | 62279360 | rs9883112 | 0.492 |
| 3 | 63260778       | rs11130920 | 63282908 | rs1451312 | 0.858 |
| 3 | 63260778       | rs11130920 | 63306518 | rs13061130 | 0.208 |
| 3 | 63282908       | rs1451312 | 63306518 | rs13061130 | 0.247 |
| Chromosome | Genomic Position | SNP ID | Genomic Position | SNP ID | Distance (kb) | P-Value |
|------------|------------------|--------|------------------|--------|--------------|---------|
| 3          | 63538798         | rs6785893 | 63542394         | rs17399554 | 0.266        |
| 3          | 64483477         | rs10470705 | 64510911         | rs7642335 | 0.484        |
| 3          | 64510911         | rs7642335 | 65307422         | rs9854952 | 0.211        |
| 3          | 65163493         | rs988487  | 65172526         | rs2371864 | 0.375        |
| 3          | 65401481         | rs6762815 | 65415811         | rs4375986 | 0.569        |
| 3          | 65401481         | rs6762815 | 65493500         | rs13077233 | 0.388       |
| 3          | 65415821         | rs4375986 | 65493500         | rs13077233 | 0.541       |
| 3          | 65576699         | rs7642335 | 65576717         | rs9854952 | 0.211        |
| 3          | 65576699         | rs7642335 | 65576735         | rs7612644 | 1.000        |
| 3          | 65576717         | rs7612634 | 65576735         | rs7612644 | 1.000        |
| 3          | 65785954         | rs1495448 | 65804384         | rs10510947 | 0.795       |
| 3          | 68923672         | rs876535  | 68940970         | rs4855516 | 0.766        |
| 3          | 68923672         | rs876535  | 68952118         | rs2130439 | 0.425        |
| 3          | 68923672         | rs876535  | 68956675         | rs10470577 | 0.351       |
| 3          | 68940970         | rs4855516 | 68952118         | rs2130439 | 0.437        |
| 3          | 68940970         | rs4855516 | 68956675         | rs10470577 | 0.371       |
| 3          | 68952118         | rs2130439 | 68956675         | rs10470577 | 0.568       |
| 3          | 71555237         | rs7630905 | 71556906         | rs7612644 | 1.000        |
| 3          | 72065199         | rs4552321 | 72065251         | rs4345037 | 1.000        |
| 3          | 72587344         | rs2118592 | 72599055         | rs934840 | 0.266        |
| 3          | 75043354         | rs9828888 | 75072673         | rs4420916 | 0.735        |
| 3          | 75043354         | rs9828888 | 75173405         | rs6785246 | 0.760        |
| 3          | 75043354         | rs9828888 | 75180559         | rs4635750 | 0.598        |
| 3          | 75043354         | rs9828888 | 75277146         | rs6549701 | 0.682        |
| 3          | 75043354         | rs9828888 | 75285062         | rs9877751 | 0.521        |
| 3          | 75043354         | rs9828888 | 75332099         | rs13083349 | 0.531       |
| 3          | 75043354         | rs9828888 | 75352178         | rs4072316 | 0.268        |
| 3          | 75072673         | rs4420916 | 75173405         | rs6785246 | 0.568        |
| 3          | 75072673         | rs4420916 | 75180559         | rs4635750 | 0.791        |
| 3          | 75072673         | rs4420916 | 75277146         | rs6549701 | 0.445        |
| 3          | 75072673         | rs4420916 | 75285062         | rs9877751 | 0.673        |
| 3          | 75072673         | rs4420916 | 75332099         | rs13083349 | 0.370       |
| 3          | 75072673         | rs4420916 | 75352178         | rs4072316 | 0.363        |
| 3          | 75173405         | rs6785246 | 75180559         | rs4635750 | 0.509        |
| 3          | 75173405         | rs6785246 | 75277146         | rs6549701 | 0.838        |
| 3          | 75173405         | rs6785246 | 75285062         | rs9877751 | 0.502        |
| 3          | 75173405         | rs6785246 | 75332099         | rs13083349 | 0.628       |
| 3          | 75180559         | rs4635750 | 75277146         | rs6549701 | 0.499        |
| 3          | 75180559         | rs4635750 | 75285062         | rs9877751 | 0.838        |
| 3          | 75180559         | rs4635750 | 75332099         | rs13083349 | 0.382       |
| 3          | 75180559         | rs4635750 | 75352178         | rs4072316 | 0.455        |
| 3          | 75277146         | rs6549701 | 75285062         | rs9877751 | 0.635        |
| 3          | 75277146         | rs6549701 | 75332099         | rs13083349 | 0.723       |
| 3          | 75277146         | rs6549701 | 75352178         | rs4072316 | 0.254        |
| SNP1 | SNP2     | SNP3     | R2 |
|------|----------|----------|----|
| rs9877751 | 7532099 | rs13083349 | 0.463 |
| rs9877751 | 75352178 | rs4072316 | 0.498 |
| rs13083349 | 75352178 | rs4072316 | 0.370 |
| rs9876344 | 77405024 | rs9882239 | 0.391 |
| rs9883980 | 80682502 | rs7431461 | 0.657 |
| rs1406781 | 80887895 | rs6786939 | 0.692 |
| rs6786939 | 81235306 | rs2578318 | 0.232 |
| rs17018482 | 81974721 | rs1524557 | 0.863 |
| rs17018482 | 81976619 | rs1464791 | 0.641 |
| rs1464790 | 81974721 | rs1524557 | 0.741 |
| rs1464790 | 81976619 | rs1464791 | 0.726 |
| rs9836755 | 86250563 | rs13093396 | 0.231 |
| rs7634358 | 89987959 | rs7633240 | 0.984 |
| rs7634358 | 90034988 | rs12106694 | 0.984 |
| rs9887959 | 86250563 | rs13093396 | 1.000 |
| rs7634358 | 90034988 | rs12106694 | 0.984 |
| rs9887959 | 86250563 | rs13093396 | 0.984 |
| rs7634358 | 90034988 | rs12106694 | 0.984 |
| rs9887959 | 86250563 | rs13093396 | 0.984 |
| rs7634358 | 90034988 | rs12106694 | 0.984 |
| rs9887959 | 86250563 | rs13093396 | 0.984 |
| rs7634358 | 90034988 | rs12106694 | 0.984 |
| rs9887959 | 86250563 | rs13093396 | 0.984 |
| rs7634358 | 90034988 | rs12106694 | 0.984 |
| rs9887959 | 86250563 | rs13093396 | 0.984 |
| rs7634358 | 90034988 | rs12106694 | 0.984 |
| rs9887959 | 86250563 | rs13093396 | 0.984 |
| rs7634358 | 90034988 | rs12106694 | 0.984 |
| rs9887959 | 86250563 | rs13093396 | 0.984 |
| rs7634358 | 90034988 | rs12106694 | 0.984 |
| rs9887959 | 86250563 | rs13093396 | 0.984 |
| rs7634358 | 90034988 | rs12106694 | 0.984 |
| rs9887959 | 86250563 | rs13093396 | 0.984 |
| rs7634358 | 90034988 | rs12106694 | 0.984 |
| rs9887959 | 86250563 | rs13093396 | 0.984 |
| rs7634358 | 90034988 | rs12106694 | 0.984 |
| rs9887959 | 86250563 | rs13093396 | 0.984 |
| rs7634358 | 90034988 | rs12106694 | 0.984 |
| Chromosome | Position (bp) | rsID | Position (bp) | rsID | Distance (bp) | p Value |
|------------|---------------|------|---------------|------|---------------|---------|
| 3          | 110771783     | rs1533855 | 110785471 | rs1729590 | 0.813         |
| 3          | 110771783     | rs1533855 | 110807269 | rs1729622 | 0.591         |
| 3          | 110771783     | rs1533855 | 110814933 | rs1729616 | 0.591         |
| 3          | 110782976     | rs1729595 | 110783010 | rs1729594 | 0.971         |
| 3          | 110782976     | rs1729595 | 110807269 | rs1729622 | 0.277         |
| 3          | 110782976     | rs1729595 | 110814933 | rs1729616 | 0.277         |
| 3          | 110783010     | rs1729594 | 110785471 | rs1729590 | 0.990         |
| 3          | 110783010     | rs1729594 | 110807269 | rs1729622 | 0.720         |
| 3          | 110783010     | rs1729594 | 110814933 | rs1729616 | 0.720         |
| 3          | 110785471     | rs1729590 | 110807269 | rs1729622 | 0.713         |
| 3          | 110785471     | rs1729590 | 110814933 | rs1729616 | 1.000         |
| 3          | 110782976     | rs1729595 | 110785471 | rs1729590 | 0.990         |
| 3          | 110782976     | rs1729595 | 110814933 | rs1729616 | 0.720         |
| 3          | 110782976     | rs1729595 | 110807269 | rs1729622 | 0.713         |
| 3          | 110782976     | rs1729595 | 110814933 | rs1729616 | 1.000         |
| 3          | 112471474     | rs16857885 | 112486553 | rs13083225 | 0.577         |
| 3          | 112485064     | rs1489024 | 112486553 | rs13083225 | 0.246         |
| 3          | 113083848     | rs17490973 | 113193088 | rs17429033 | 0.612         |
| 3          | 113411650     | rs13069887 | 113422075 | rs1493729 | 0.272         |
| 3          | 120022936     | rs12629898 | 120082765 | rs962115 | 0.445         |
| 3          | 120986830     | rs11712211 | 120989570 | rs1403527 | 1.000         |
| 3          | 122016954     | rs956346 | 122018119 | rs96849 | 0.352         |
| 3          | 124219868     | rs7629297 | 124236663 | rs1123613 | 0.532         |
| 3          | 124356613     | rs2717225 | 124419559 | rs986971 | 0.213         |
| 3          | 124356613     | rs2717225 | 124447590 | rs12493729 | 0.201         |
| 3          | 124419559     | rs9868971 | 124447590 | rs12493729 | 0.985         |
| 3          | 125622819     | rs6787049 | 125639321 | rs963651 | 0.984         |
| 3          | 126184698     | rs6763492 | 126204193 | rs679558 | 0.727         |
| 3          | 126659411     | rs7636858 | 126675824 | rs7610077 | 0.529         |
| 3          | 127647472     | rs777491 | 127669194 | rs777496 | 0.799         |
| 3          | 129358064     | rs11716941 | 129429478 | rs9830294 | 0.440         |
| 3          | 129358064     | rs11716941 | 129476313 | rs2999061 | 0.928         |
| 3          | 129429478     | rs9830294 | 129476313 | rs2999061 | 0.485         |
| 3          | 132237816     | rs903046 | 132263544 | rs6794179 | 1.000         |
| 3          | 132237816     | rs903046 | 132313061 | rs16835887 | 0.976         |
| 3          | 132237816     | rs903046 | 132342177 | rs1515909 | 0.964         |
| 3          | 132237816     | rs903046 | 132346904 | rs2718860 | 0.964         |
| 3          | 132237816     | rs903046 | 132350485 | rs6439277 | 0.952         |
| 3          | 132263544     | rs6794179 | 132313061 | rs16835887 | 0.976         |
| 3          | 132263544     | rs6794179 | 132342177 | rs1515909 | 0.964         |
| 3          | 132263544     | rs6794179 | 132346904 | rs2718860 | 0.964         |
| 3          | 132263544     | rs6794179 | 132350485 | rs6439277 | 0.952         |
| 3          | 132267796     | rs1389271 | 132338545 | rs925779 | 0.715         |
| 3          | 132303784     | rs13094108 | 132338545 | rs925779 | 0.810         |
| 3          | 132313061     | rs16835887 | 132342177 | rs1515909 | 0.988         |
| SNP1 | RS1 | SNP2 | RS2 | SNP3 | RS3 | p-value |
|------|-----|------|-----|------|-----|---------|
| 3    | 132313061 | rs16835887 | 132346904 | rs2718860 | 0.988 |
| 3    | 132313061 | rs16835887 | 132350485 | rs6439277 | 0.976 |
| 3    | 132342177 | rs1515909 | 132346904 | rs2718860 | 1.000 |
| 3    | 132342177 | rs1515909 | 132350485 | rs6439277 | 0.988 |
| 3    | 132430699 | rs10512802 | 132474804 | rs16836261 | 0.223 |
| 3    | 132430699 | rs10512802 | 132564794 | rs16836493 | 0.250 |
| 3    | 132474804 | rs16836261 | 132557020 | rs1427835 | 0.806 |
| 3    | 132474804 | rs16836261 | 132564794 | rs16836493 | 0.554 |
| 3    | 132557020 | rs1427835 | 132564794 | rs16836493 | 0.720 |
| 3    | 132564794 | rs16836493 | 133172286 | rs1381083 | 0.211 |
| 3    | 134157013 | rs17431810 | 134207602 | rs9873398 | 0.208 |
| 3    | 134157013 | rs17431810 | 134208053 | rs1013391 | 0.331 |
| 3    | 134157013 | rs17431810 | 134208565 | rs6763815 | 0.208 |
| 3    | 134157013 | rs17431810 | 134219072 | rs6439381 | 0.324 |
| 3    | 134157013 | rs17431810 | 134227201 | rs2369967 | 0.444 |
| 3    | 134157013 | rs17431810 | 134234389 | rs1464403 | 0.313 |
| 3    | 134157013 | rs17431810 | 134238872 | rs7633217 | 0.433 |
| 3    | 134157013 | rs17431810 | 134243117 | rs1568478 | 0.287 |
| 3    | 134188001 | rs9824252 | 134207602 | rs9873398 | 0.957 |
| 3    | 134188001 | rs9824252 | 134208053 | rs1013391 | 0.704 |
| 3    | 134188001 | rs9824252 | 134208565 | rs6763815 | 0.957 |
| 3    | 134188001 | rs9824252 | 134219072 | rs6439381 | 0.707 |
| 3    | 134188001 | rs9824252 | 134227201 | rs2369967 | 0.333 |
| 3    | 134188001 | rs9824252 | 134234389 | rs1464403 | 0.679 |
| 3    | 134188001 | rs9824252 | 134238872 | rs7633217 | 0.331 |
| 3    | 134188001 | rs9824252 | 134243117 | rs1568478 | 0.579 |
| 3    | 134188001 | rs9824252 | 134245860 | rs4854680 | 0.536 |
| 3    | 134207602 | rs9873398 | 134208053 | rs1013391 | 0.755 |
| 3    | 134207602 | rs9873398 | 134208565 | rs6763815 | 1.000 |
| 3    | 134207602 | rs9873398 | 134219072 | rs6439381 | 0.757 |
| 3    | 134207602 | rs9873398 | 134227201 | rs2369967 | 0.373 |
| 3    | 134207602 | rs9873398 | 134234389 | rs1464403 | 0.731 |
| 3    | 134207602 | rs9873398 | 134238872 | rs7633217 | 0.370 |
| 3    | 134207602 | rs9873398 | 134243117 | rs1568478 | 0.629 |
| 3    | 134207602 | rs9873398 | 134245860 | rs4854680 | 0.587 |
| 3    | 134207602 | rs9873398 | 134250282 | rs7631593 | 0.317 |
| 3    | 134208053 | rs1013391 | 134208565 | rs6763815 | 0.755 |
| 3    | 134208053 | rs1013391 | 134219072 | rs6439381 | 1.000 |
| 3    | 134208053 | rs1013391 | 134227201 | rs2369967 | 0.528 |
| 3    | 134208053 | rs1013391 | 134234389 | rs1464403 | 0.968 |
| 3    | 134208053 | rs1013391 | 134238872 | rs7633217 | 0.521 |
| 3    | 134208053 | rs1013391 | 134243117 | rs1568478 | 0.833 |
| 3    | 134208053 | rs1013391 | 134245860 | rs4854680 | 0.808 |
| Population | SNP 1 | SNP 2 | SNP 3 | SNP 4 | SNP 5 |
|------------|-------|-------|-------|-------|-------|
| 134208053  | rs1013391 | 134250282 | rs7631593 | 0.469 |
| 134208053  | rs1013391 | 134259591 | rs2049149 | 0.596 |
| 134208565  | rs6763815 | 134219072 | rs6439381 | 0.757 |
| 134208565  | rs6763815 | 134227201 | rs2369677 | 0.373 |
| 134208565  | rs6763815 | 134234389 | rs1464403 | 0.731 |
| 134208565  | rs6763815 | 134238827 | rs763217 | 0.370 |
| 134208565  | rs6763815 | 134243117 | rs1568478 | 0.629 |
| 134208565  | rs6763815 | 134245860 | rs454680 | 0.317 |
| 134208565  | rs6763815 | 134259591 | rs2049149 | 0.822 |
| 134219072  | rs6439381 | 134227201 | rs496483 | 0.784 |
| 134219072  | rs6439381 | 134234389 | rs1464403 | 0.530 |
| 134219072  | rs6439381 | 134238872 | rs7633217 | 0.524 |
| 134219072  | rs6439381 | 134243117 | rs1568478 | 0.834 |
| 134219072  | rs6439381 | 134245860 | rs454680 | 0.810 |
| 134219072  | rs6439381 | 134250282 | rs7631593 | 0.471 |
| 134219072  | rs6439381 | 134259591 | rs2049149 | 0.601 |
| 134227201  | rs2369677 | 134234389 | rs1464403 | 0.531 |
| 134227201  | rs2369677 | 134238872 | rs7633217 | 0.938 |
| 134227201  | rs2369677 | 134243117 | rs1568478 | 0.579 |
| 134227201  | rs2369677 | 134245860 | rs454680 | 0.588 |
| 134227201  | rs2369677 | 134250282 | rs7631593 | 0.841 |
| 134227201  | rs2369677 | 134259591 | rs2049149 | 0.356 |
| 134227201  | rs2369677 | 134273376 | rs496483 | 0.283 |
| 134234389  | rs1464403 | 134238872 | rs763217 | 0.537 |
| 134234389  | rs1464403 | 134243117 | rs1568478 | 0.861 |
| 134234389  | rs1464403 | 134245860 | rs454680 | 0.835 |
| 134234389  | rs1464403 | 134250282 | rs7631593 | 0.482 |
| 134234389  | rs1464403 | 134259591 | rs2049149 | 0.627 |
| 134234389  | rs1464403 | 134273376 | rs496483 | 0.643 |
| 134234389  | rs1464403 | 134280489 | rs2369677 | 0.219 |
| 134238872  | rs7633217 | 134243117 | rs1568478 | 0.596 |
| 134238872  | rs7633217 | 134245860 | rs454680 | 0.605 |
| 134238872  | rs7633217 | 134250282 | rs7631593 | 0.870 |
| 134238872  | rs7633217 | 134259591 | rs2049149 | 0.372 |
| 134238872  | rs7633217 | 134273376 | rs496483 | 0.285 |
| 134238872  | rs7633217 | 134280489 | rs2369677 | 0.555 |
| 134243117  | rs1568478 | 134245860 | rs454680 | 0.968 |
| 134243117  | rs1568478 | 134250282 | rs7631593 | 0.553 |
| 134243117  | rs1568478 | 134259591 | rs2049149 | 0.688 |
| rs1568478 | rs4496483 | 0.582 |
| rs1568478 | rs2369970 | 0.245 |
| rs4854680 | rs7631593 | 0.574 |
| rs4854680 | rs2049149 | 0.656 |
| rs4854680 | rs4496483 | 0.552 |
| rs4854680 | rs2369970 | 0.266 |
| rs7631593 | rs2049149 | 0.343 |
| rs7631593 | rs2369970 | 0.482 |
| rs2049149 | rs4496483 | 0.806 |
| rs2400279 | rs2400273 | 0.417 |
| rs36178 | rs39704 | 1.000 |
| rs36178 | rs4955459 | 0.688 |
| rs36178 | rs7644369 | 0.664 |
| rs39704 | rs4955459 | 0.688 |
| rs39704 | rs7644369 | 0.664 |
| rs4955459 | rs7644369 | 0.982 |
| rs6439578 | rs7621220 | 0.881 |
| rs10222397 | rs6439578 | 0.400 |
| rs347973 | rs9881950 | 0.806 |
| rs347973 | rs4683516 | 0.379 |
| rs347973 | rs9881950 | 0.206 |
| rs3913019 | rs698666 | 0.755 |
| rs4683516 | rs9881950 | 0.237 |
| rs698666 | rs9881950 | 0.795 |
| rs9823690 | rs10935417 | 0.496 |
| rs967526 | rs17602500 | 0.260 |
| rs17602500 | rs6778627 | 0.595 |
| rs17602500 | rs4527375 | 0.823 |
| SNP 1   | rsID 1   | SNP 2   | rsID 2   | p-value |
|---------|----------|---------|----------|---------|
| 145148707 | rs17602500 | 145218290 | rs4613453 | 0.823   |
| 145148707 | rs17602500 | 14525984 | rs1025984 | 0.593   |
| 145148707 | rs17602500 | 145302196 | rs1530477 | 0.590   |
| 145203559 | rs6778627  | 145218205 | rs4527375 | 0.707   |
| 145203559 | rs6778627  | 145219064 | rs7611326 | 0.970   |
| 145203559 | rs6778627  | 145238877 | rs1025984 | 0.707   |
| 145203559 | rs6778627  | 145238877 | rs1025984 | 0.707   |
| 145203559 | rs6778627  | 145302196 | rs1530477 | 0.508   |
| 145218205 | rs4527375  | 145218290 | rs4613453 | 1.000   |
| 145218205 | rs4527375  | 145238877 | rs1025984 | 0.690   |
| 145218205 | rs4527375  | 145302196 | rs1530477 | 0.700   |
| 145219064 | rs7611326  | 145238877 | rs1025984 | 0.694   |
| 145219064 | rs7611326  | 145302196 | rs1530477 | 0.697   |
| 145238877 | rs1025984 | 145302196 | rs1530477 | 0.502   |
| 146711304 | rs13091557 | 146721568 | rs4470459 | 0.991   |
| 146711304 | rs13091557 | 146736032 | rs6792834 | 0.963   |
| 146721568 | rs4470459  | 146736032 | rs6792834 | 0.954   |
| 151992294 | rs6769917  | 151998413 | rs41454348 | 0.347  |
| 154798092 | rs3946073  | 154803470 | rs16822807 | 0.314 |
| 156556033 | rs4561871  | 156561704 | rs3924188 | 0.988   |
| 160526956 | rs1349165  | 160526972 | rs1349166 | 0.986   |
| 160958833 | rs1375846  | 165319181 | rs1375832 | 1.000   |
| 165313941 | rs1375846  | 165319181 | rs1375832 | 1.000   |
| 165313941 | rs1375846  | 165341254 | rs1349285 | 1.000   |
| 165313941 | rs1375846  | 165353361 | rs1480208 | 1.000   |
| 165313941 | rs1375846  | 165377741 | rs12495540 | 0.601  |
| 165319181 | rs1375832  | 165341254 | rs1349285 | 1.000   |
| 165319181 | rs1375832  | 165353361 | rs1480208 | 1.000   |
| 165319181 | rs1375832  | 165377741 | rs12495540 | 0.601  |
| 165341254 | rs1349285  | 165353361 | rs1480208 | 1.000   |
| 165341254 | rs1349285  | 165377741 | rs12495540 | 0.601  |
| 165353361 | rs10936408 | 165377741 | rs12495540 | 0.601  |
| 166990796 | rs9873779  | 166991935 | rs2089885 | 1.000   |
| 168786179 | rs4274741  | 168847165 | rs9829009 | 0.578   |
| 170169342 | rs17462877 | 170273620 | rs9823691 | 0.201   |
| 171011143 | rs10936601 | 171017960 | rs6793160 | 0.419   |
| 171672199 | rs1990805  | 171793139 | rs12496334 | 0.336  |
| 171672199 | rs1990805  | 171815244 | rs17289591 | 0.347  |
| 171793139 | rs12496334 | 171815244 | rs17289591 | 0.691  |
|   | 3     | rs9859281 | 198797230 | rs9842166 | 0.573 |
|---|-------|-----------|-----------|-----------|-------|
|   | 3     | rs9859281 | 198799512 | rs2082270 | 0.268 |
|   | 3     | rs9859281 | 198812273 | rs7613131 | 0.299 |
|   | 3     | rs9859281 | 198799512 | rs2082270 | 0.369 |
|   | 3     | rs2082270 | 198812273 | rs7613131 | 0.629 |
|   | 4     | rs554222  | 2130692   | rs10488836| 0.777 |
|   | 4     | rs3025838 | 3279182   | rs41347150| 0.282 |
|   | 4     | rs16837064| 5435157   | rs10937641| 0.779 |
|   | 4     | rs2082270 | 198812273 | rs7613131 | 0.629 |
|   | 4     | rs7613131 | 5880158   | rs3821936 | 0.392 |
|   | 4     | rs10488836| 3279182   | rs41347150| 0.282 |
|   | 4     | rs9859281 | 198812273 | rs7613131 | 0.629 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
|   | 4     | rs10516201| 9783237   | rs4697718 | 0.448 |
| Chromosome | Position | Marker 1 | Position 2 | Marker 2 | DAF |
|------------|----------|----------|------------|----------|------|
| 4          | 10691247 | rs7685923| 10784850   | rs7659670| 0.220|
| 4          | 10701650 | rs4697838| 10701939   | rs4697839| 1.000|
| 4          | 10701650 | rs4697838| 10784850   | rs7659670| 0.220|
| 4          | 10701939 | rs4697839| 10784850   | rs6759670| 0.220|
| 4          | 10728210 | rs16878217| 10730190  | rs16878245| 0.977|
| 4          | 11216599 | rs10488990| 11219566  | rs2108955| 0.205|
| 4          | 12666968 | rs481266  | 12691442   | rs4698629| 0.427|
| 4          | 17176453 | rs13103430| 17217982  | rs4698629| 0.427|
| 4          | 17176453 | rs13103430| 17239290  | rs4698634| 0.401|
| 4          | 17217982 | rs4698629| 17239290  | rs4698634| 0.635|
| 4          | 18871602 | rs312352  | 19164533   | rs4642242| 0.208|
| 4          | 19054034 | rs9995581| 19118623   | rs4577579| 0.279|
| 4          | 19054034 | rs9995581| 19203653  | rs12502866| 0.626|
| 4          | 19115959 | rs4440215| 19118623   | rs577579| 0.214|
| 4          | 19118623 | rs4577579| 19164533  | rs4642242| 0.230|
| 4          | 19164533 | rs4642242| 19190933  | rs11734810| 0.288|
| 4          | 19203653 | rs1688634| 19216491  | rs1032258| 0.785|
| 4          | 20694428 | rs6817687| 20697443  | rs4599408| 0.894|
| 4          | 20781183 | rs1836087| 20781282  | rs4642242| 0.208|
| 4          | 20781183 | rs1836087| 20790093  | rs1319225| 0.909|
| 4          | 20781282 | rs6821250| 20790093  | rs1319225| 0.909|
| 4          | 24427607 | rs800453 | 24482702  | rs1319198| 0.484|
| 4          | 24472607 | rs800453 | 24495197  | rs4697489| 0.513|
| 4          | 2482702  | rs1319198| 24495197  | rs4697489| 0.883|
| 4          | 25654795 | rs6814440| 25655054  | rs7684555| 0.918|
| 4          | 25654795 | rs6814440| 25657239  | rs2137231| 0.592|
| 4          | 25655054 | rs7684555| 25657239  | rs2137231| 0.591|
| 4          | 25951636 | rs6821126| 25966991  | rs2153155| 0.306|
| 4          | 25966991 | rs2153155| 26051306  | rs13134710| 0.433|
| 4          | 26458873 | rs10939139| 26461536  | rs7660174| 0.481|
| 4          | 26458873 | rs10939139| 26461536  | rs7671671| 0.736|
| 4          | 26458873 | rs10939139| 26461536  | rs7671671| 0.736|
| 4          | 26458873 | rs10939139| 26571971  | rs10032186| 0.553|
| 4          | 26461536 | rs7660174| 26462750  | rs7671671| 0.632|
| 4          | 26461536 | rs7660174| 26571971  | rs10032186| 0.231|
| 4          | 26462750 | rs7671671| 26571971  | rs10032186| 0.462|
| 4          | 28188118 | rs2458628| 28261899  | rs2101697| 0.638|
| 4          | 30118029 | rs1588610| 30131509  | rs10031821| 0.208|
| 4          | 30118029 | rs1588610| 30131509  | rs10031821| 0.208|
| 4          | 30131509 | rs10031821| 30142909  | rs1818442| 0.326|
| 4          | 30131509 | rs10031821| 30142909  | rs1818442| 0.326|
| SNP | rsID | Chromosome | Position | rsID | Chromosome | Position | Distance | p-value |
|-----|------|------------|----------|------|------------|----------|----------|---------|
| 30142909 | rs1818442 | 30239480 | rs767478 | 0.517 |
| 31757023 | rs10014802 | 31773932 | rs11133180 | 0.326 |
| 31773932 | rs11133180 | 31825250 | rs1118106 | 0.316 |
| 31845118 | rs17080915 | 31845304 | rs17299248 | 0.497 |
| 31845118 | rs17080915 | 31864983 | rs902658 | 0.501 |
| 31845118 | rs17080915 | 31865170 | rs2404759 | 0.501 |
| 31845304 | rs17299248 | 31864983 | rs902658 | 0.848 |
| 31845304 | rs17299248 | 31865170 | rs2404759 | 0.848 |
| 31845304 | rs17299248 | 31865170 | rs2404759 | 1.000 |
| 32706365 | rs9306915 | 32739241 | rs9990848 | 0.540 |
| 32706365 | rs9306915 | 32742832 | rs28577134 | 0.457 |
| 32739241 | rs9990848 | 32742832 | rs28577134 | 0.809 |
| 36786141 | rs13144081 | 36864308 | rs1342993 | 0.246 |
| 37702617 | rs933820 | 37708185 | rs6820715 | 0.691 |
| 37702617 | rs933820 | 37708322 | rs10018836 | 0.675 |
| 42020972 | rs2632689 | 42038947 | rs1565113 | 0.604 |
| 42052652 | rs2632698 | 42052845 | rs2719949 | 0.569 |
| 42052652 | rs2632698 | 42077641 | rs1386617 | 0.458 |
| 42052652 | rs2632698 | 42081595 | rs2719950 | 0.523 |
| 42052652 | rs2632698 | 42086461 | rs2719959 | 0.415 |
| 42052652 | rs2632698 | 42071994 | rs1386617 | 0.235 |
| 42052652 | rs2632698 | 42081595 | rs2719950 | 0.783 |
| 42052652 | rs2632698 | 42086461 | rs2719959 | 0.591 |
| 42052652 | rs2632698 | 42077641 | rs1386617 | 0.966 |
| 42052652 | rs2632698 | 42081595 | rs2719950 | 0.294 |
| 42081595 | rs2719950 | 42086461 | rs2719959 | 0.734 |
| 42086461 | rs2719959 | 42034596 | rs35487523 | 0.226 |
| 44781944 | rs2048545 | 44792234 | rs7663667 | 0.984 |
| 47773350 | rs6850108 | 47784892 | rs10007288 | 0.935 |
| 58651643 | rs2660950 | 58669544 | rs17827094 | 0.942 |
| 58651643 | rs2660950 | 58669628 | rs17827100 | 0.933 |
| 58669544 | rs17827094 | 58669628 | rs17827100 | 0.990 |
| 60724394 | rs6551526 | 60920756 | rs11946495 | 0.260 |
| 60920756 | rs11946495 | 61100834 | rs11724820 | 0.253 |
| 62679165 | rs2193121 | 62765958 | rs2015977 | 0.288 |
| 62941177 | rs778933 | 62942012 | rs778934 | 0.979 |
| 64767521 | rs12651540 | 64925717 | rs10517893 | 0.297 |
| 64935458 | rs1601076 | 64925717 | rs10517893 | 0.442 |
| 64935458 | rs1601076 | 64951917 | rs9998808 | 0.752 |
| 64952717 | rs10517893 | 64951917 | rs9998808 | 0.555 |
| 66401913 | rs4434311 | 66490958 | rs4860723 | 0.280 |
| 66401913 | rs4434311 | 66500848 | rs1433622 | 0.320 |
| 66401913 | rs4434311 | 66687591 | rs980448 | 0.337 |
|   |   |   |   |   |
|---|---|---|---|---|
| 4 | 66490958 | rs4860723 | 66687591 | rs980448 | 0.287 |
| 4 | 66500848 | rs1433622 | 66687591 | rs980448 | 0.284 |
| 4 | 67865677 | rs12504640 | 68135468 | rs931360 | 0.234 |
| 4 | 67916100 | rs17820729 | 67923741 | rs930438 | 0.608 |
| 4 | 69817484 | rs1458236 | 69848375 | rs1598904 | 1.000 |
| 4 | 69817484 | rs1458236 | 69848638 | rs1458243 | 0.943 |
| 4 | 69817484 | rs1458236 | 69852671 | rs1458246 | 0.988 |
| 4 | 69817484 | rs1458236 | 69871762 | rs2017990 | 0.293 |
| 4 | 69817484 | rs1458236 | 69912185 | rs6811878 | 0.383 |
| 4 | 69817484 | rs1458236 | 70004132 | rs6858558 | 0.222 |
| 4 | 69848375 | rs1598904 | 69848638 | rs1458243 | 0.943 |
| 4 | 69848375 | rs1598904 | 69852671 | rs1458246 | 0.988 |
| 4 | 69848375 | rs1598904 | 69871762 | rs1000481 | 0.314 |
| 4 | 69848375 | rs1598904 | 69897763 | rs2017990 | 0.293 |
| 4 | 69848375 | rs1598904 | 69912185 | rs6811878 | 0.383 |
| 4 | 69848375 | rs1598904 | 70004132 | rs6858558 | 0.222 |
| 4 | 69848638 | rs1458243 | 69852671 | rs1458246 | 0.955 |
| 4 | 69848638 | rs1458243 | 69871762 | rs1000481 | 0.298 |
| 4 | 69848638 | rs1458243 | 69897763 | rs2017990 | 0.361 |
| 4 | 69848638 | rs1458243 | 69912185 | rs6811878 | 0.415 |
| 4 | 69848638 | rs1458243 | 70004132 | rs6858558 | 0.234 |
| 4 | 69852671 | rs1458246 | 69871762 | rs1000481 | 0.310 |
| 4 | 69852671 | rs1458246 | 69897763 | rs2017990 | 0.303 |
| 4 | 69852671 | rs1458246 | 69912185 | rs6811878 | 0.398 |
| 4 | 69852671 | rs1458246 | 70004132 | rs6858558 | 0.221 |
| 4 | 69871762 | rs1000481 | 69897763 | rs2017990 | 0.360 |
| 4 | 69897763 | rs2017990 | 69912185 | rs6811878 | 0.311 |
| 4 | 69912185 | rs6811878 | 70004132 | rs6858558 | 0.380 |
| 4 | 70004132 | rs6858558 | 70052120 | rs4348160 | 0.289 |
| 4 | 71189199 | rs17713792 | 71224700 | rs2013685 | 0.373 |
| 4 | 72138031 | rs4694087 | 72209645 | rs4693480 | 0.280 |
| 4 | 7314898 | rs16848366 | 73794412 | rs10518108 | 0.349 |
| 4 | 73714898 | rs16848366 | 73827020 | rs11935685 | 0.726 |
| 4 | 73794412 | rs10518108 | 73827020 | rs11935685 | 0.489 |
| 4 | 74150390 | rs4694155 | 74313364 | rs9291182 | 0.433 |
| 4 | 74836146 | rs1951242 | 74845025 | rs10938095 | 0.323 |
| 4 | 76204933 | rs6827697 | 76215877 | rs17000197 | 0.686 |
| 4 | 76204933 | rs6827697 | 76216335 | rs17000199 | 0.369 |
| 4 | 76215877 | rs17000197 | 76216335 | rs17000199 | 0.619 |
| 4 | 77125998 | rs4859581 | 77196808 | rs4422436 | 0.669 |
| 4 | 77363283 | rs1114091 | 77396841 | rs2289514 | 0.267 |
| 4 | 77363283 | rs1114091 | 77397403 | rs6819794 | 0.380 |
| 4 | 77396841 | rs2289514 | 77397403 | rs6819794 | 0.421 |
| Chromosome | Position 1 | Position 2 | Position 3 | p-value |
|------------|------------|------------|------------|---------|
| 4          | 78095863   | rs9307224  | 78132337   | 0.920   |
| 4          | 78095863   | rs9307224  | 78132395   | 0.919   |
| 4          | 78132337   | rs904032   | 78132395   | 0.982   |
| 4          | 78563409   | rs41476645 | 78564144   | 1.000   |
| 4          | 78941339   | rs4859879  | 78954919   | 1.000   |
| 4          | 78941339   | rs4859879  | 79077539   | 0.560   |
| 4          | 78941339   | rs4859879  | 79143992   | 0.582   |
| 4          | 78954919   | rs11097938 | 79077539   | 0.560   |
| 4          | 78954919   | rs11097938 | 79143992   | 0.245   |
| 4          | 79077539   | rs4577601  | 79143992   | 0.562   |
| 4          | 80133431   | rs1545805  | 80154502   | 0.358   |
| 4          | 80133431   | rs1545805  | 80158557   | 0.873   |
| 4          | 80133431   | rs1545805  | 80202969   | 0.560   |
| 4          | 80154502   | rs1383421  | 80158557   | 0.338   |
| 4          | 80158557   | rs899900   | 80202969   | 0.680   |
| 4          | 80168623   | rs17003582 | 80202969   | 0.220   |
| 4          | 81217787   | rs6817424  | 81705296   | 0.259   |
| 4          | 81217787   | rs6817424  | 82053941   | 0.359   |
| 4          | 81242178   | rs1650677  | 81471743   | 0.456   |
| 4          | 81442178   | rs1650677  | 81597990   | 0.347   |
| 4          | 81597990   | rs7683819  | 82053941   | 0.404   |
| 4          | 82053941   | rs10213174 | 82053941   | 0.590   |
| 4          | 82208527   | rs2685468  | 82208527   | 0.205   |
| 4          | 82827868   | rs4574400  | 82827868   | 0.253   |
| 4          | 82827868   | rs4574400  | 82833681   | 0.524   |
| 4          | 82829803   | rs6839535  | 82833681   | 0.504   |
| 4          | 85903170   | rs11728145 | 86686809   | 0.244   |
| 4          | 88013326   | rs10015508 | 88018240   | 0.907   |
| 4          | 88013326   | rs10015508 | 88192729   | 0.651   |
| 4          | 88018240   | rs6811350  | 88192729   | 0.722   |
| 4          | 90955029   | rs1837890  | 90955047   | 1.000   |
| 4          | 92739442   | rs9991015  | 92740065   | 1.000   |
| 4          | 96474594   | rs4699421  | 96515157   | 0.398   |
| 4          | 96474594   | rs4699421  | 96522013   | 0.337   |
| 4          | 96515157   | rs2621455  | 96522013   | 0.256   |
| 4          | 100932644  | rs13134954 | 100932788  | 0.991   |
| 4          | 103676448  | rs230529   | 103725482  | 0.619   |
| 4          | 103676448  | rs230529   | 103737343  | 0.532   |
| 4          | 103725482  | rs1598859  | 103737343  | 0.877   |
| 4          | 105978188  | rs2725771  | 105991543  | 0.220   |
| 4          | 106633149  | rs4699182  | 106698459  | 0.455   |
| 4          | 110227110  | rs3108958  | 110227270  | 0.519   |
| 4          | 112168892  | rs9307361  | 112171839  | 0.206   |
|   |   |   |   |   |
|---|---|---|---|---|
| 4 | 112168892 | rs9307361 | 112180135 | rs159471 | 0.414 |
| 4 | 112171839 | rs159476 | 112180135 | rs159471 | 0.418 |
| 4 | 114641161 | rs17446453 | 114645383 | rs4834347 | 0.965 |
| 4 | 114641161 | rs17446453 | 114648856 | rs11098193 | 0.913 |
| 4 | 114645383 | rs4834347 | 114648856 | rs11098193 | 0.947 |
| 4 | 115660061 | rs4385142 | 115668021 | rs4834347 | 0.870 |
| 4 | 116949884 | rs7680117 | 117024524 | rs7697741 | 0.954 |
| 4 | 117400685 | rs1906694 | 117428886 | rs6832218 | 0.751 |
| 4 | 117400685 | rs1906694 | 117488271 | rs11935514 | 0.359 |
| 4 | 117400685 | rs1906694 | 117488695 | rs41518644 | 0.359 |
| 4 | 117428886 | rs7669497 | 117435227 | rs6832218 | 0.990 |
| 4 | 117428886 | rs7669497 | 117488271 | rs11935514 | 0.264 |
| 4 | 117435227 | rs6832218 | 117488271 | rs11935514 | 0.261 |
| 4 | 117435227 | rs6832218 | 117488695 | rs41518644 | 0.261 |
| 4 | 117488271 | rs11935514 | 117488695 | rs41518644 | 0.913 |
| 4 | 120628600 | rs10006706 | 120643383 | rs12510138 | 0.988 |
| 4 | 121913509 | rs10026533 | 121986119 | rs1588524 | 0.951 |
| 4 | 122156529 | rs4532258 | 122177009 | rs34766411 | 0.938 |
| 4 | 122203473 | rs6829190 | 122215148 | rs2136948 | 0.980 |
| 4 | 122203473 | rs6829190 | 122220644 | rs13138476 | 0.990 |
| 4 | 122203473 | rs6829190 | 122235041 | rs13128284 | 0.960 |
| 4 | 122215148 | rs2136948 | 122220644 | rs13138476 | 0.970 |
| 4 | 122215148 | rs2136948 | 122235041 | rs13128284 | 0.938 |
| 4 | 122220644 | rs13138476 | 122235041 | rs13128284 | 0.951 |
| 4 | 124899190 | rs17007339 | 124901195 | rs9992459 | 0.958 |
| 4 | 127017986 | rs2390896 | 127027641 | rs11932292 | 1.000 |
| 4 | 131253674 | rs958409 | 131281403 | rs2172478 | 0.292 |
| 4 | 131253674 | rs958409 | 131281674 | rs1552802 | 0.254 |
| 4 | 131281403 | rs2172478 | 131281674 | rs1552802 | 0.907 |
| 4 | 133143041 | rs6847963 | 133148931 | rs17468426 | 0.681 |
| 4 | 133143041 | rs6847963 | 133148931 | rs17468426 | 0.688 |
| 4 | 133148446 | rs1511333 | 133148931 | rs17468426 | 0.688 |
| 4 | 133572980 | rs1499348 | 133615345 | rs1875024 | 0.508 |
| 4 | 135291303 | rs7691662 | 135469395 | rs7663402 | 0.653 |
| 4 | 136731472 | rs7654065 | 136735906 | rs7692855 | 0.918 |
| 4 | 136731472 | rs7654065 | 136740519 | rs1173477 | 1.000 |
| 4 | 136731472 | rs7654065 | 136748977 | rs13119704 | 0.496 |
| 4 | 136735906 | rs7692855 | 136740519 | rs1173477 | 0.918 |
| 4 | 136735906 | rs7692855 | 136748977 | rs13119704 | 0.544 |
| 4 | 136740519 | rs1173477 | 136748977 | rs13119704 | 0.495 |
| 4 | 136918253 | rs17048200 | 136929875 | rs11730105 | 0.816 |
| 4 | 136918253 | rs17048200 | 136934225 | rs12510799 | 0.319 |
| Locus 1     | Locus 2     | Locus 3     | Locus 4     | P-value   |
|------------|------------|------------|------------|-----------|
| 136929875  | rs11730105 | 136934225  | rs12510799 | 0.281     |
| 141475312  | rs2036947  | 141484584  | rs996116   | 0.897     |
| 141475312  | rs2036947  | 141509306  | rs4956293  | 0.285     |
| 141484584  | rs996116   | 141534172  | rs358332   | 0.207     |
| 141509306  | rs4956293  | 141524043  | rs358317   | 0.726     |
| 141509306  | rs4956293  | 141524729  | rs358317   | 0.726     |
| 141524043  | rs358315   | 141524729  | rs358317   | 1.000     |
| 141524043  | rs358315   | 141534172  | rs358332   | 0.610     |
| 141524729  | rs358317   | 141534172  | rs358332   | 0.610     |
| 142897271  | rs970509   | 142898776  | rs10033884 | 0.530     |
| 142897271  | rs970509   | 142907840  | rs4254850  | 0.463     |
| 143067127  | rs10011008 | 143070590  | rs7663877  | 0.254     |
| 143193708  | rs2645799  | 143195291  | rs2667099  | 0.969     |
| 143193708  | rs2645799  | 143222465  | rs1353603  | 0.592     |
| 143195291  | rs2667099  | 143222465  | rs1353603  | 0.575     |
| 147752642  | rs17021632 | 147762864  | rs17021660 | 0.587     |
| 147959961  | rs17021984 | 148056414  | rs12503342 | 0.333     |
| 148056414  | rs12503342 | 148897061  | rs10519914 | 0.202     |
| 148560383  | rs1429117  | 148581870  | rs17023259 | 0.636     |
| 153248310  | rs17276464 | 153310773  | rs2897464  | 0.529     |
| 153248310  | rs17276464 | 153313090  | rs4586908  | 0.271     |
| 153310773  | rs2897464  | 153313090  | rs4586908  | 0.556     |
| 155987069  | rs1500394  | 155991081  | rs6832964  | 0.952     |
| 155987069  | rs1500394  | 155991353  | rs1500370  | 0.952     |
| 155991081  | rs6832964  | 155991353  | rs1500370  | 1.000     |
| 157754977  | rs6811244  | 157771848  | rs7672387  | 0.381     |
| 160047778  | rs2291007  | 160054590  | rs9998057  | 0.472     |
| 161529034  | rs34082346 | 161529827  | rs1898866  | 0.439     |
| 161529034  | rs34082346 | 161530598  | rs7677076  | 0.496     |
| 161529827  | rs1898866  | 161530598  | rs7677076  | 0.951     |
| 161935753  | rs8180366  | 161937609  | rs13128164 | 1.000     |
| 162151909  | rs2068177  | 162231847  | rs17375482 | 0.392     |
| 163445860  | rs6812566  | 163454734  | rs7675931  | 0.872     |
| 166504639  | rs1438111  | 166585980  | rs7663866  | 0.254     |
| 167318791  | rs6837937  | 167319366  | rs17047336 | 1.000     |
| 168181330  | rs7664643  | 168193181  | rs6818745  | 0.566     |
| 168722326  | rs992771   | 168761544  | rs10517948 | 0.234     |
| 171821698  | rs9994424  | 171823438  | rs5009480  | 0.720     |
| 171821698  | rs9994424  | 171871392  | rs10029768 | 0.281     |
| 171823438  | rs5009480  | 171871392  | rs10029768 | 0.393     |
| 173889675  | rs6841156  | 173922367  | rs13134194 | 0.625     |
|   | rs   |   | rs   |   |   |
|---|------|---|------|---|---|
|   | 173899675 | rs6841156 | 173933544 | rs6819460 | 0.391 |
|   | 173922367 | rs13134194 | 173933544 | rs6819460 | 0.747 |
|   | 174559706 | rs17325472 | 174559803 | rs13148735 | 1.000 |
|   | 177402176 | rs4589981 | 177402550 | rs4690671 | 0.975 |
|   | 177461443 | rs13115859 | 177465508 | rs4077385 | 0.982 |
|   | 177461443 | rs13115859 | 177465879 | rs11133144 | 0.427 |
|   | 177465508 | rs4077385 | 177466713 | rs11133144 | 0.991 |
|   | 180407643 | rs1457394 | 180407774 | rs1457392 | 1.000 |
|   | 184613845 | rs6816216 | 184652332 | rs11723316 | 0.242 |
|   | 186046913 | rs7672399 | 186047130 | rs6552838 | 1.000 |
|   | 188113464 | rs6553029 | 188113823 | rs6821507 | 0.914 |
|   | 190362801 | rs7684484 | 190362818 | rs7684496 | 1.000 |
|   | 3102987 | rs13167386 | 3103455 | rs16870933 | 0.554 |
|   | 3102987 | rs13167386 | 3103780 | rs10041553 | 0.671 |
|   | 3103455 | rs16870933 | 3103780 | rs10041553 | 0.850 |
|   | 4360636 | rs1501737 | 4378585 | rs261189 | 0.902 |
|   | 4360636 | rs1501737 | 4378739 | rs261187 | 0.902 |
|   | 4360636 | rs1501737 | 4379793 | rs261182 | 0.902 |
|   | 4360636 | rs1501737 | 4380302 | rs261181 | 0.902 |
|   | 4360636 | rs1501737 | 4380853 | rs261179 | 0.734 |
|   | 4360636 | rs1501737 | 4394950 | rs261163 | 0.666 |
|   | 4360636 | rs1501737 | 4405277 | rs261150 | 0.739 |
|   | 4378585 | rs261189 | 4378739 | rs261187 | 1.000 |
|   | 4378585 | rs261189 | 4379793 | rs261182 | 1.000 |
|   | 4378585 | rs261189 | 4380302 | rs261181 | 1.000 |
|   | 4378585 | rs261189 | 4380853 | rs261179 | 0.791 |
|   | 4378585 | rs261189 | 4394950 | rs261163 | 0.718 |
|   | 4378585 | rs261189 | 4405277 | rs261150 | 0.799 |
|   | 4378739 | rs261187 | 4379793 | rs261182 | 1.000 |
|   | 4378739 | rs261187 | 4380302 | rs261181 | 1.000 |
|   | 4378739 | rs261187 | 4380853 | rs261179 | 0.791 |
|   | 4378739 | rs261187 | 4394950 | rs261163 | 0.718 |
|   | 4378739 | rs261187 | 4405277 | rs261150 | 0.799 |
|   | 4379793 | rs261182 | 4380302 | rs261181 | 1.000 |
|   | 4379793 | rs261182 | 4380853 | rs261179 | 0.791 |
|   | 4379793 | rs261182 | 4394950 | rs261163 | 0.718 |
|   | 4379793 | rs261182 | 4405277 | rs261150 | 0.799 |
|   | 4380302 | rs261181 | 4380853 | rs261179 | 0.791 |
|   | 4380302 | rs261181 | 4394950 | rs261163 | 0.718 |
|   | 4380302 | rs261181 | 4405277 | rs261150 | 0.799 |
|   | 4380853 | rs261179 | 4394950 | rs261163 | 0.936 |
| Chromosome Position | SNP ID | rsID | SNPs Linked with | p-value |
|---------------------|--------|------|-----------------|---------|
| 5                   | 4380853| rs261179 | rs261150 | 0.792 |
| 5                   | 4394950| rs261163 | rs261150 | 0.851 |
| 5                   | 5145343| rs2619802 | rs987587 | 1.000 |
| 5                   | 5790796| rs2399610 | rs7443606 | 0.955 |
| 5                   | 5790796| rs2399610 | rs441356 | 0.885 |
| 5                   | 5790797| rs7443606 | rs441356 | 0.928 |
| 5                   | 5964381| rs1150461 | rs1150462 | 0.893 |
| 5                   | 7255635| rs4298226 | rs13186772 | 0.253 |
| 5                   | 7255635| rs4298226 | rs4302553 | 0.259 |
| 5                   | 5964381| rs1150461 | rs1150462 | 0.893 |
| 5                   | 7255635| rs4298226 | rs4302553 | 0.259 |
| 5                   | 7269226| rs13186772 | rs4302553 | 0.960 |
| 5                   | 5145343| rs2619802 | rs987587 | 1.000 |
| 5                   | 5790796| rs2399610 | rs7443606 | 0.955 |
| 5                   | 5790796| rs2399610 | rs441356 | 0.885 |
| 5                   | 5790797| rs7443606 | rs441356 | 0.928 |
| 5                   | 5964381| rs1150461 | rs1150462 | 0.893 |
| 5                   | 7255635| rs4298226 | rs13186772 | 0.253 |
| 5                   | 7255635| rs4298226 | rs4302553 | 0.259 |
| 5                   | 7269226| rs13186772 | rs4302553 | 0.960 |
| 5                   | 5145343| rs2619802 | rs987587 | 1.000 |
| 5                   | 5790796| rs2399610 | rs7443606 | 0.955 |
| 5                   | 5790796| rs2399610 | rs441356 | 0.885 |
| 5                   | 5790797| rs7443606 | rs441356 | 0.928 |
| 5                   | 5964381| rs1150461 | rs1150462 | 0.893 |
| 5                   | 7255635| rs4298226 | rs13186772 | 0.253 |
| 5                   | 7255635| rs4298226 | rs4302553 | 0.259 |
| 5                   | 7269226| rs13186772 | rs4302553 | 0.960 |
| 5                   | 5145343| rs2619802 | rs987587 | 1.000 |
| 5                   | 5790796| rs2399610 | rs7443606 | 0.955 |
| 5                   | 5790796| rs2399610 | rs441356 | 0.885 |
| 5                   | 5790797| rs7443606 | rs441356 | 0.928 |
| 5                   | 5964381| rs1150461 | rs1150462 | 0.893 |
| 5                   | 7255635| rs4298226 | rs13186772 | 0.253 |
| 5                   | 7255635| rs4298226 | rs4302553 | 0.259 |
| 5                   | 7269226| rs13186772 | rs4302553 | 0.960 |
| 5                   | 5145343| rs2619802 | rs987587 | 1.000 |
| 5                   | 5790796| rs2399610 | rs7443606 | 0.955 |
| 5                   | 5790796| rs2399610 | rs441356 | 0.885 |
| 5                   | 5790797| rs7443606 | rs441356 | 0.928 |
| 5                   | 5964381| rs1150461 | rs1150462 | 0.893 |
| 5                   | 7255635| rs4298226 | rs13186772 | 0.253 |
| 5                   | 7255635| rs4298226 | rs4302553 | 0.259 |
| 5                   | 7269226| rs13186772 | rs4302553 | 0.960 |
| 5  | 40534334 | rs1505992 | 40553482 | rs4957317 | 0.882 |
| 5  | 40534334 | rs1505992 | 40557969 | rs10941516 | 0.351 |
| 5  | 40534334 | rs1505992 | 40564436 | rs7718129 | 0.352 |
| 5  | 40534334 | rs1505992 | 40597115 | rs11750156 | 0.804 |
| 5  | 40545412 | rs1553576 | 40545764 | rs1553577 | 0.972 |
| 5  | 40545412 | rs1553576 | 40551279 | rs4957313 | 0.982 |
| 5  | 40545412 | rs1553576 | 40551774 | rs6896604 | 0.963 |
| 5  | 40545412 | rs1553576 | 40564436 | rs7718129 | 0.946 |
| 5  | 40545412 | rs1553576 | 40597115 | rs11750156 | 0.890 |
| 5  | 40545412 | rs1553576 | 40605710 | rs10055860 | 0.897 |
| 5  | 40545412 | rs1553576 | 40605832 | rs10055946 | 0.972 |
| 5  | 40545412 | rs1553576 | 40614679 | rs1122433 | 0.981 |
| 5  | 40545412 | rs1553576 | 40637966 | rs2135330 | 0.779 |
| 5  | 40551279 | rs4957313 | 40551774 | rs6896604 | 0.982 |
| 5  | 40551279 | rs4957313 | 40557969 | rs10941516 | 0.372 |
| 5  | 40551279 | rs4957313 | 40564436 | rs7718129 | 0.429 |
| 5  | 40551279 | rs4957313 | 40597115 | rs11750156 | 0.895 |
| 5  | 40551279 | rs4957313 | 40605710 | rs10055860 | 0.415 |
| 5  | 40551279 | rs4957313 | 40605832 | rs10055946 | 0.415 |
| 5  | 40551279 | rs4957313 | 40614679 | rs1122433 | 0.981 |
| 5  | 40551279 | rs4957313 | 40637966 | rs2135330 | 0.779 |
| 5  | 40551774 | rs6896604 | 40553482 | rs4957317 | 0.947 |
| 5  | 40551774 | rs6896604 | 40557969 | rs10941516 | 0.386 |
| 5  | 40551774 | rs6896604 | 40564436 | rs7718129 | 0.429 |
| 5  | 40551774 | rs6896604 | 40597115 | rs11750156 | 0.879 |
| 5  | 40551774 | rs6896604 | 40605710 | rs10055860 | 0.916 |
| 5  | 40551774 | rs6896604 | 40605832 | rs10055946 | 0.416 |
| 5  | 40551774 | rs6896604 | 40614679 | rs1122433 | 0.796 |
| 5  | 40551774 | rs6896604 | 40637966 | rs2135330 | 0.247 |
| 5  | 40553088 | rs6866402 | 40553482 | rs4957317 | 0.930 |
| 5  | 40553088 | rs6866402 | 40557969 | rs10941516 | 0.383 |
| 5  | 40553088 | rs6866402 | 40564436 | rs7718129 | 0.429 |
| 5  | 40553088 | rs6866402 | 40597115 | rs11750156 | 0.888 |
|   | rsID       | rsID       | rsID       | rsID       | rsID     | P-value |
|---|------------|------------|------------|------------|----------|----------|
| 5 | rs10055946 | rs10055946 | rs10055946 | rs10055946 | rs10055946 | 0.904    |
| 5 | rs10055860 | rs10055860 | rs10055860 | rs10055860 | rs10055860 | 0.415    |
| 5 | rs1122433  | rs1122433  | rs1122433  | rs1122433  | rs1122433  | 0.795    |
| 5 | rs2135330  | rs2135330  | rs2135330  | rs2135330  | rs2135330  | 0.246    |
| 5 | rs10473203 | rs10473203 | rs10473203 | rs10473203 | rs10473203 | 0.773    |
| 5 | rs10941516 | rs10941516 | rs10941516 | rs10941516 | rs10941516 | 0.416    |
| 5 | rs7718129  | rs7718129  | rs7718129  | rs7718129  | rs7718129  | 0.399    |
| 5 | rs11750156 | rs11750156 | rs11750156 | rs11750156 | rs11750156 | 0.861    |
| 5 | rs1055860  | rs1055860  | rs1055860  | rs1055860  | rs1055860  | 0.866    |
| 5 | rs10055946 | rs10055946 | rs10055946 | rs10055946 | rs10055946 | 0.387    |
| 5 | rs1122433  | rs1122433  | rs1122433  | rs1122433  | rs1122433  | 0.735    |
| 5 | rs2135330  | rs2135330  | rs2135330  | rs2135330  | rs2135330  | 0.231    |
| 5 | rs10473203 | rs10473203 | rs10473203 | rs10473203 | rs10473203 | 0.750    |
| 5 | rs10941516 | rs10941516 | rs10941516 | rs10941516 | rs10941516 | 0.347    |
| 5 | rs10055860 | rs10055860 | rs10055860 | rs10055860 | rs10055860 | 0.354    |
| 5 | rs1122433  | rs1122433  | rs1122433  | rs1122433  | rs1122433  | 0.254    |
| 5 | rs10473203 | rs10473203 | rs10473203 | rs10473203 | rs10473203 | 0.326    |
| 5 | rs7718129  | rs7718129  | rs7718129  | rs7718129  | rs7718129  | 0.450    |
| 5 | rs11750156 | rs11750156 | rs11750156 | rs11750156 | rs11750156 | 0.429    |
| 5 | rs10055860 | rs10055860 | rs10055860 | rs10055860 | rs10055860 | 0.986    |
| 5 | rs1122433  | rs1122433  | rs1122433  | rs1122433  | rs1122433  | 0.456    |
| 5 | rs2135330  | rs2135330  | rs2135330  | rs2135330  | rs2135330  | 0.557    |
| 5 | rs10473203 | rs10473203 | rs10473203 | rs10473203 | rs10473203 | 0.377    |
| 5 | rs11750156 | rs11750156 | rs11750156 | rs11750156 | rs11750156 | 0.970    |
| 5 | rs10055860 | rs10055860 | rs10055860 | rs10055860 | rs10055860 | 0.452    |
| 5 | rs1122433  | rs1122433  | rs1122433  | rs1122433  | rs1122433  | 0.886    |
| 5 | rs11750156 | rs11750156 | rs11750156 | rs11750156 | rs11750156 | 0.266    |
| 5 | rs10473203 | rs10473203 | rs10473203 | rs10473203 | rs10473203 | 0.874    |
| 5 | rs10055860 | rs10055860 | rs10055860 | rs10055860 | rs10055860 | 0.431    |
| 5 | rs1122433  | rs1122433  | rs1122433  | rs1122433  | rs1122433  | 0.861    |
| 5 | rs10473203 | rs10473203 | rs10473203 | rs10473203 | rs10473203 | 0.233    |
| 5 | rs10055860 | rs10055860 | rs10055860 | rs10055860 | rs10055860 | 0.844    |
| 5 | rs11750156 | rs11750156 | rs11750156 | rs11750156 | rs11750156 | 0.461    |
| 5 | rs10055860 | rs10055860 | rs10055860 | rs10055860 | rs10055860 | 0.571    |
| 5 | rs10055860 | rs10055860 | rs10055860 | rs10055860 | rs10055860 | 0.394    |
| 5 | rs10473203 | rs10473203 | rs10473203 | rs10473203 | rs10473203 | 0.947    |
| 5 | rs12515791 | rs12515791 | rs12515791 | rs12515791 | rs12515791 | 0.377    |
| 5 | rs1122433  | rs1122433  | rs1122433  | rs1122433  | rs1122433  | 0.456    |
| 5 | rs11750156 | rs11750156 | rs11750156 | rs11750156 | rs11750156 | 0.341    |
| 5 | rs7733683  | rs7733683  | rs7733683  | rs7733683  | rs7733683  | 0.970    |
| 5 | rs12514062 | rs12514062 | rs12514062 | rs12514062 | rs12514062 | 0.934    |
| 5 | rs117931   | rs117931   | rs117931   | rs117931   | rs117931   | 0.625    |
| 5 | rs2112876  | rs2112876  | rs2112876  | rs2112876  | rs2112876  | 0.486    |
| 5 | rs4141522  | rs4141522  | rs4141522  | rs4141522  | rs4141522  | 0.642    |
| 5 | rs3656359  | rs3656359  | rs3656359  | rs3656359  | rs3656359  | 0.639    |
| 5 | 53690381 | rs968813 | 53708606 | rs12515791 | 0.514 |
| 5 | 54126295 | rs10045790 | 54129781 | rs4380600 | 0.403 |
| 5 | 54300768 | rs1023671 | 54310631 | rs3822313 | 0.992 |
| 5 | 55687334 | rs1997522 | 55689646 | rs6892034 | 0.961 |
| 5 | 55687334 | rs1997522 | 55692632 | rs1645483 | 0.290 |
| 5 | 55689646 | rs6892034 | 55692632 | rs1645483 | 0.270 |
| 5 | 56385936 | rs831793 | 56386202 | rs865553 | 0.639 |
| 5 | 56950018 | rs4699908 | 56965947 | rs2968223 | 0.218 |
| 5 | 59199583 | rs10042020 | 59200750 | rs1003219 | 1.000 |
| 5 | 60131029 | rs6449503 | 60332313 | rs290505 | 0.210 |
| 5 | 60131029 | rs6449503 | 60551551 | rs581318 | 0.258 |
| 5 | 60332313 | rs290505 | 60547184 | rs11954384 | 0.437 |
| 5 | 60332313 | rs290505 | 60884502 | rs4582229 | 0.397 |
| 5 | 60547184 | rs11954384 | 61608746 | rs16890651 | 0.822 |
| 5 | 61597678 | rs971965 | 61665296 | rs16890651 | 0.889 |
| 5 | 61597678 | rs971965 | 61852899 | rs40290 | 0.693 |
| 5 | 61608746 | rs13189446 | 61665296 | rs16890651 | 0.822 |
| 5 | 61608746 | rs13189446 | 61852899 | rs40290 | 0.649 |
| 5 | 61665296 | rs16890651 | 61852899 | rs40290 | 0.745 |
| 5 | 62105308 | rs2591786 | 62110935 | rs2642781 | 0.361 |
| 5 | 62105308 | rs2591786 | 62110935 | rs2642781 | 0.981 |
| 5 | 63257177 | rs17484704 | 63639566 | rs1374031 | 0.274 |
| 5 | 63426154 | rs168558 | 63532936 | rs1389864 | 0.973 |
| 5 | 63426154 | rs168558 | 63639566 | rs1374031 | 0.590 |
| 5 | 63532936 | rs1389864 | 63639566 | rs1374031 | 0.571 |
| 5 | 64643239 | rs6449781 | 64676668 | rs2640717 | 0.470 |
| 5 | 64643239 | rs6449781 | 64743875 | rs9291837 | 0.638 |
| 5 | 64643239 | rs6449781 | 64769683 | rs2047064 | 0.592 |
| 5 | 64676668 | rs2640717 | 64743875 | rs9291837 | 0.521 |
| 5 | 64676668 | rs2640717 | 64769683 | rs2047064 | 0.466 |
| 5 | 64743875 | rs9291837 | 64769683 | rs2047064 | 0.867 |
| 5 | 66506805 | rs2042945 | 66514485 | rs2230524 | 0.561 |
| 5 | 67589527 | rs6893676 | 67605358 | rs2302976 | 0.914 |
| 5 | 67589527 | rs6893676 | 67645164 | rs440292 | 0.275 |
| 5 | 67605358 | rs2302976 | 67645164 | rs440292 | 0.294 |
| 5 | 67640384 | rs695166 | 67645164 | rs440292 | 0.570 |
| 5 | 68078239 | rs6891897 | 68100520 | rs2451819 | 0.360 |
| 5 | 68100520 | rs2451819 | 68166377 | rs1427906 | 0.223 |
| 5 | 71402652 | rs1217778 | 71402819 | rs1217782 | 0.924 |
| 5 | 71802603 | rs4703908 | 71873362 | rs406813 | 0.302 |
| 5 | 77093252 | rs254378 | 77115613 | rs254411 | 0.299 |
| 5 | 78141103 | rs10514108 | 78142127 | rs12054837 | 0.409 |
| Chromosome | Marker 1 | Marker 2 | Marker 3 | p-value |
|------------|---------|---------|---------|---------|
| 5          | 78303950 | rs12153089 | 78304645 | 6897944 | 0.973 |
| 5          | 78303950 | rs12153089 | 78306219 | 6897944 | 0.975 |
| 5          | 78304645 | rs6453423  | 78306219 | 6897944 | 0.993 |
| 5          | 78735782 | rs2404150  | 7849824  | 7709092 | 0.873 |
| 5          | 82783992 | rs33596   | 82795773 | 28296   | 0.867 |
| 5          | 84576005 | rs6452647  | 84529376 | 307311  | 0.632 |
| 5          | 84639708 | rs2931116  | 84729376 | 307311  | 0.566 |
| 5          | 84729376 | rs307311   | 84865910 | 467359  | 0.208 |
| 5          | 85267170 | rs2898534  | 85303222 | 12521073| 0.273 |
| 5          | 88338086 | rs4916663  | 88355663 | 6452806 | 0.768 |
| 5          | 88338086 | rs4916663  | 88364322 | 1427967 | 0.902 |
| 5          | 88338086 | rs4916663  | 88364920 | 13185032| 0.933 |
| 5          | 88338086 | rs4916663  | 88370749 | 1159666 | 0.731 |
| 5          | 88338086 | rs4916663  | 88409794 | 9986241 | 0.807 |
| 5          | 88338086 | rs4916663  | 88428880 | 4916669 | 0.834 |
| 5          | 8838086  | rs4916663  | 88452110 | 9293511 | 0.862 |
| 5          | 88355663 | rs6452806  | 88364322 | 1427967 | 0.808 |
| 5          | 88355663 | rs6452806  | 88364920 | 13185032| 0.772 |
| 5          | 88355663 | rs6452806  | 88370749 | 1159666 | 0.964 |
| 5          | 88355663 | rs6452806  | 88409794 | 9986241 | 0.791 |
| 5          | 88355663 | rs6452806  | 88428880 | 4916669 | 0.746 |
| 5          | 88355663 | rs6452806  | 88452110 | 9293511 | 0.736 |
| 5          | 88364322 | rs1427967  | 88364920 | 13185032| 0.971 |
| 5          | 88364322 | rs1427967  | 88370749 | 1159666 | 0.839 |
| 5          | 88364322 | rs1427967  | 88409794 | 9986241 | 0.882 |
| 5          | 88364322 | rs1427967  | 88428880 | 4916669 | 0.893 |
| 5          | 88364322 | rs1427967  | 88452110 | 9293511 | 0.882 |
| 5          | 88364920 | rs13185032 | 88370749 | 1159666 | 0.801 |
| 5          | 88364920 | rs13185032 | 88409794 | 9986241 | 0.859 |
| 5          | 88364920 | rs13185032 | 88428880 | 4916669 | 0.866 |
| 5          | 88364920 | rs13185032 | 88452110 | 9293511 | 0.893 |
| 5          | 88370749 | rs1159666  | 88409794 | 9986241 | 0.824 |
| 5          | 88370749 | rs1159666  | 88428880 | 4916669 | 0.761 |
| 5          | 88370749 | rs1159666  | 88452110 | 9293511 | 0.749 |
| 5          | 88409794 | rs9986241  | 88428880 | 4916669 | 0.926 |
| 5          | 88409794 | rs9986241  | 88452110 | 9293511 | 0.899 |
| 5          | 88428880 | rs4916669  | 88452110 | 9293511 | 0.970 |
| 5          | 88823450 | rs1852721  | 88824241 | 6452825 | 0.284 |
| 5          | 89312242 | rs10474312 | 89400075 | 818944  | 0.968 |
| 5          | 89312242 | rs10474312 | 89425015 | 157559  | 0.433 |
| 5          | 89312242 | rs10474312 | 89440658 | 924628  | 0.869 |
| 5          | 89400075 | rs818944   | 89425015 | 157559  | 0.418 |
| 5          | 89400075 | rs818944   | 89440658 | 924628  | 0.901 |
| Score | rsID          | PsID          | PMID          | Z       | P       |
|-------|---------------|---------------|---------------|---------|---------|
| 5     | 89425015      | rs157559      | 89440658      | rs924628 | 0.433   |
| 5     | 93045806      | rs10060331    | 93147477      | rs2344918 | 0.376  |
| 5     | 93147477      | rs2344918     | 93574048      | rs7378943 | 0.296  |
| 5     | 93807278      | rs13178274    | 93821888      | rs9285014 | 0.398  |
| 5     | 95875079      | rs17473575    | 95907773      | rs6877870 | 0.227  |
| 5     | 96104065      | rs26503       | 96146211      | rs42398  | 0.270  |
| 5     | 96104065      | rs26503       | 96191820      | rs34735  | 0.222  |
| 5     | 96146211      | rs42398       | 96191820      | rs34735  | 0.411  |
| 5     | 96708555      | rs7701806     | 96783901      | rs291827 | 0.235  |
| 5     | 98802139      | rs1916599     | 98802264      | rs2511902 | 0.706  |
| 5     | 98802139      | rs1916599     | 98821231      | rs2461991 | 1.000  |
| 5     | 98802139      | rs1916599     | 98848971      | rs2461953 | 0.696  |
| 5     | 98802139      | rs1916599     | 98959050      | rs681634 | 0.562  |
| 5     | 98802139      | rs1916599     | 99080579      | rs1462419 | 0.423  |
| 5     | 98802264      | rs2511902     | 98821231      | rs2461991 | 0.706  |
| 5     | 98802264      | rs2511902     | 98848971      | rs2461953 | 0.957  |
| 5     | 98802264      | rs2511902     | 98959050      | rs681634 | 0.768  |
| 5     | 98802264      | rs2511902     | 99080579      | rs1462419 | 0.603  |
| 5     | 98802264      | rs2511902     | 99181038      | rs6878343 | 0.229  |
| 5     | 98821231      | rs2461991     | 98848971      | rs2461953 | 0.696  |
| 5     | 98821231      | rs2461991     | 98959050      | rs681634 | 0.562  |
| 5     | 98821231      | rs2461991     | 99080579      | rs1462419 | 0.423  |
| 5     | 98848971      | rs2461953     | 98959050      | rs681634 | 0.743  |
| 5     | 98848971      | rs2461953     | 99080579      | rs1462419 | 0.578  |
| 5     | 98848971      | rs2461953     | 99181038      | rs6878343 | 0.211  |
| 5     | 98959050      | rs681634      | 99080579      | rs1462419 | 0.744  |
| 5     | 98959050      | rs681634      | 99181038      | rs6878343 | 0.201  |
| 5     | 99080579      | rs1462419     | 99181038      | rs6878343 | 0.353  |
| 5     | 99152807      | rs7447852     | 99172882      | rs11241243 | 1.000  |
| 5     | 99152807      | rs7447852     | 99249586      | rs3844092 | 0.961  |
| 5     | 99152807      | rs7447852     | 99249653      | rs3844091 | 0.960  |
| 5     | 99152807      | rs7447852     | 99249738      | rs4455602 | 0.961  |
| 5     | 99152807      | rs7447852     | 99278995      | rs2924611 | 0.259  |
| 5     | 99172882      | rs11241243    | 99249586      | rs3844092 | 0.960  |
| 5     | 99172882      | rs11241243    | 99249653      | rs3844091 | 0.959  |
| 5     | 99172882      | rs11241243    | 99249738      | rs4455602 | 0.960  |
| 5     | 99172882      | rs11241243    | 99278995      | rs2924611 | 0.259  |
| 5     | 99181038      | rs6878343     | 99249586      | rs3844092 | 0.214  |
| 5     | 99181038      | rs6878343     | 99249653      | rs3844091 | 0.210  |
| 5     | 99181038      | rs6878343     | 99249738      | rs4455602 | 0.214  |
| 5     | 99249586      | rs3844092     | 99249653      | rs3844091 | 1.000  |
| 5     | 99249586      | rs3844092     | 99249738      | rs4455602 | 1.000  |
| 5     | 99249586      | rs3844092     | 99278995      | rs2924611 | 0.248  |
| 5     | 99249653      | rs3844091     | 99249738      | rs4455602 | 1.000  |
| 5 | 99249653 | rs3844091 | 99278995 | rs2924611 | 0.248 |
| 5 | 99249738 | rs4455602 | 99278995 | rs2924611 | 0.248 |
| 5 | 99332774 | rs10054412 | 99350463 | rs10070116 | 0.426 |
| 5 | 99332774 | rs10054412 | 99379483 | rs11948786 | 0.341 |
| 5 | 99379483 | rs11948786 | 99411368 | rs17164397 | 0.270 |
| 5 | 99411368 | rs17164397 | 99671978 | rs1824780 | 0.230 |
| 5 | 100096374 | rs2120913 | 100100985 | rs279095 | 0.957 |
| 5 | 100271404 | rs1833862 | 100518871 | rs2048525 | 0.521 |
| 5 | 101842508 | rs17333350 | 102517410 | rs34767 | 0.214 |
| 5 | 102361943 | rs3756583 | 102466190 | rs34823 | 0.228 |
| 5 | 103415779 | rs6887182 | 103445285 | rs1420864 | 0.672 |
| 5 | 103415779 | rs6887182 | 103482656 | rs2707407 | 0.493 |
| 5 | 103415779 | rs6887182 | 103492704 | rs17156145 | 0.444 |
| 5 | 103445285 | rs1420864 | 103492704 | rs17156145 | 0.651 |
| 5 | 103482656 | rs2707407 | 103492704 | rs17156145 | 0.904 |
| 5 | 105472939 | rs11739968 | 105646376 | rs11242576 | 0.201 |
| 5 | 105472939 | rs11739968 | 105649051 | rs7718256 | 0.436 |
| 5 | 105646376 | rs11242576 | 105649051 | rs7718256 | 0.655 |
| 5 | 106982444 | rs17160261 | 107039611 | rs13361436 | 0.436 |
| 5 | 109072457 | rs6897334 | 109203522 | rs7711326 | 0.224 |
| 5 | 109072457 | rs6897334 | 109220135 | rs2007136 | 0.214 |
| 5 | 109072457 | rs6897334 | 109223156 | rs1368356 | 0.213 |
| 5 | 109203522 | rs7711326 | 109220135 | rs2007136 | 0.919 |
| 5 | 109203522 | rs7711326 | 109223156 | rs1368356 | 0.949 |
| 5 | 109203522 | rs7711326 | 109258634 | rs245243 | 0.704 |
| 5 | 109220135 | rs2007136 | 109223156 | rs1368356 | 0.949 |
| 5 | 109220135 | rs2007136 | 109258634 | rs245243 | 0.646 |
| 5 | 109223156 | rs1368356 | 109258634 | rs245243 | 0.712 |
| 5 | 109272818 | rs42924 | 109279160 | rs6862355 | 0.454 |
| 5 | 114939464 | rs256989 | 114968099 | rs10079000 | 0.865 |
| 5 | 114939464 | rs256989 | 115001019 | rs10055339 | 0.769 |
| 5 | 114968099 | rs10079000 | 115001019 | rs10055339 | 0.891 |
| 5 | 116915922 | rs265899 | 116916065 | rs265900 | 1.000 |
| 5 | 116915922 | rs265899 | 117001959 | rs371616 | 0.605 |
| 5 | 116916065 | rs265900 | 117001959 | rs371616 | 0.605 |
| 5 | 116952228 | rs267074 | 117001959 | rs371616 | 0.279 |
| 5 | 119715531 | rs12658673 | 119796305 | rs6595233 | 0.930 |
| # | Position 1 | Position 2 | Position 3 | Position 4 | Position 5 |
|---|------------|------------|------------|------------|------------|
| 5 | 121910770  | rs9327254  | 121923676  | rs4438871  | 0.959      |
| 5 | 123176800  | rs6889859  | 123196141  | rs3909329  | 0.219      |
| 5 | 123448411  | rs10055109 | 123501287  | rs1457690  | 0.214      |
| 5 | 123981123  | rs12520962 | 123988346  | rs6871217  | 0.936      |
| 5 | 125337442  | rs17165007 | 125354492  | rs4836240  | 0.521      |
| 5 | 130442705  | rs13361165 | 131350393  | rs77938    | 0.252      |
| 5 | 132236262  | rs803223   | 132258930  | rs3798128  | 0.239      |
| 5 | 132697894  | rs10515458 | 132732003  | rs4958122  | 0.324      |
| 5 | 132732003  | rs4958122  | 132756827  | rs250856   | 0.279      |
| 5 | 133554588  | rs7735912  | 133731491  | rs17167478 | 0.253      |
| 5 | 134896238  | rs3860110  | 134896540  | rs2344485  | 0.581      |
| 5 | 135036890  | rs7709847  | 135037127  | rs7710084  | 0.990      |
| 5 | 135036890  | rs7709847  | 135047070  | rs6877327  | 0.743      |
| 5 | 135036890  | rs7709847  | 135056220  | rs4288109  | 0.855      |
| 5 | 135036890  | rs7709847  | 135056573  | rs11242261 | 0.902      |
| 5 | 135037127  | rs7710084  | 135047070  | rs6877327  | 0.743      |
| 5 | 135037127  | rs7710084  | 135056220  | rs4288109  | 0.855      |
| 5 | 135037127  | rs7710084  | 135056573  | rs11242261 | 0.902      |
| 5 | 135047070  | rs6877327  | 135056220  | rs4288109  | 0.620      |
| 5 | 135047070  | rs6877327  | 135056573  | rs11242261 | 0.727      |
| 5 | 135056220  | rs4288109  | 135056573  | rs11242261 | 0.877      |
| 5 | 135264117  | rs17169348 | 135325449  | rs17598926 | 0.369      |
| 5 | 135693248  | rs3822748  | 135745093  | rs346643   | 0.699      |
| 5 | 137735214  | rs757647   | 137736333  | rs4835678  | 0.281      |
| 5 | 143380861  | rs312634   | 143398614  | rs309328   | 0.980      |
| 5 | 143884468  | rs34463305 | 143900921  | rs6870605  | 0.618      |
| 5 | 143884468  | rs34463305 | 144338909  | rs11741672 | 0.349      |
| 5 | 143900921  | rs6870605  | 144338909  | rs11741672 | 0.272      |
| 5 | 145190785  | rs11745319 | 145191281  | rs385175   | 0.966      |
| 5 | 145190785  | rs11745319 | 145191308  | rs417215   | 0.964      |
| 5 | 145191281  | rs385175   | 145191308  | rs417215   | 1.000      |
| 5 | 145582091  | rs17104321 | 145593015  | rs17104331 | 0.454      |
| 5 | 145582091  | rs17104321 | 145630790  | rs17104362 | 0.906      |
| 5 | 145593015  | rs17104331 | 145630790  | rs17104362 | 0.390      |
| 5 | 145752014  | rs997011   | 145753403  | rs6580417  | 0.572      |
| 5 | 145881372  | rs7717315  | 145889963  | rs6881391  | 0.572      |
| 5 | 146014684  | rs460781   | 146014728  | rs460413   | 0.800      |
| 5 | 146014684  | rs460781   | 146023125  | rs458164   | 0.563      |
| 5 | 146014684  | rs460781   | 146027384  | rs182697   | 0.451      |
| 5 | 146014728  | rs460413   | 146027384  | rs182697   | 0.451      |
| Chromosome | rsID | Position 1 | Position 2 | Position 3 | Position 4 | r2 |
|------------|------|------------|------------|------------|------------|-----|
| 5          | 146014728 | rs460413 | 146034654  | rs464459   | 0.446      |
| 5          | 146023125 | rs458164 | 146027384  | rs182697   | 0.876      |
| 5          | 146023125 | rs458164 | 146034170  | rs462706   | 1.000      |
| 5          | 146023125 | rs458164 | 146034654  | rs464459   | 1.000      |
| 5          | 146027384 | rs182697 | 146034170  | rs462706   | 0.876      |
| 5          | 146027384 | rs182697 | 146034654  | rs464459   | 0.876      |
| 5          | 146027384 | rs182697 | 146048554  | rs10061370 | 0.226      |
| 5          | 146048554 | rs10061370 | 146060205 | rs7716683  | 0.229      |
| 5          | 146049791 | rs2400228 | 146034170  | rs462706   | 0.876      |
| 5          | 146049791 | rs2400228 | 146034654  | rs464459   | 0.876      |
| 5          | 146049791 | rs2400228 | 146048554  | rs10061370 | 0.226      |
| 5          | 146049791 | rs2400228 | 146060205  | rs7716683  | 0.229      |
| 5          | 146693780 | rs17106458 | 146703083  | rs6884181  | 0.990      |
| 5          | 146693780 | rs17106458 | 146708683  | rs918797   | 0.688      |
| 5          | 146693780 | rs17106458 | 146709417  | rs4705166  | 0.681      |
| 5          | 146693780 | rs17106458 | 146763849  | rs3805536  | 0.201      |
| 5          | 146696881 | rs10079191 | 146703083  | rs6884181  | 0.901      |
| 5          | 146696881 | rs10079191 | 146708683  | rs918797   | 0.699      |
| 5          | 146696881 | rs10079191 | 146709417  | rs4705166  | 0.691      |
| 5          | 146696881 | rs10079191 | 146763849  | rs3805536  | 0.213      |
| 5          | 146703083 | rs6884181  | 146708683  | rs918797   | 0.686      |
| 5          | 146703083 | rs6884181  | 146709417  | rs4705166  | 0.679      |
| 5          | 146708683 | rs918797   | 146709417  | rs4705166  | 0.986      |
| 5          | 146755668 | rs2288806  | 146759060  | rs17550470 | 0.215      |
| 5          | 146755668 | rs2288806  | 146759414  | rs12655364 | 0.836      |
| 5          | 146755668 | rs2288806  | 146763849  | rs3805536  | 0.801      |
| 5          | 146759060 | rs17550470 | 146759414  | rs12655364 | 0.223      |
| 5          | 146759414 | rs12655364 | 146763849  | rs3805536  | 0.666      |
| 5          | 151436036 | rs154696   | 151447865  | rs159822   | 0.351      |
| 5          | 151443684 | rs29849    | 151447865  | rs159822   | 0.367      |
| 5          | 151892892 | rs4475248  | 152044626  | rs17565505 | 0.389      |
| 5          | 152044626 | rs17565505 | 152307861  | rs4958596  | 0.348      |
| 5          | 152469215 | rs17578068 | 1524888109 | rs13173299 | 0.430      |
| 5          | 153090050 | rs10477084 | 153123087  | rs7711124  | 0.531      |
| 5          | 153090050 | rs10477084 | 153267157  | rs898709   | 0.247      |
| 5          | 153090050 | rs10477084 | 153280408  | rs2614123  | 0.251      |
| 5          | 153123087 | rs7711124  | 153247946  | rs2614125  | 0.272      |
| 5          | 153123087 | rs7711124  | 153267157  | rs898709   | 0.498      |
| 5          | 153123087 | rs7711124  | 153280408  | rs2614123  | 0.503      |
| 5          | 153247946 | rs2614125  | 153267157  | rs898709   | 0.374      |
| 5          | 153247946 | rs2614125  | 153280408  | rs2614123  | 0.365      |
| 5          | 153267157 | rs898709   | 153280408  | rs2614123  | 0.976      |
| 5          | 157170036 | rs3777059  | 157199237  | rs2650359  | 0.590      |
| 6  | 21243137  | rs2493869 | 21247079 | rs9295495 | 0.226 |
| 6  | 21483974  | rs9366399 | 21492592 | rs9466056 | 0.251 |
| 6  | 22625935  | rs7741889 | 22626538 | rs6927431 | 0.396 |
| 6  | 22625935  | rs7741889 | 22627328 | rs7748467 | 1.000 |
| 6  | 22625935  | rs7741889 | 22629109 | rs9393306 | 0.364 |
| 6  | 22626538  | rs6927431 | 22627328 | rs7748467 | 0.400 |
| 6  | 22626538  | rs6927431 | 22629109 | rs9393306 | 0.939 |
| 6  | 22627328  | rs7748467 | 22629109 | rs9393306 | 0.367 |
| 6  | 2355091   | rs199024  | 23572989 | rs191815  | 0.408 |
| 6  | 2355091   | rs199024  | 23572989 | rs191815  | 0.290 |
| 6  | 2355091   | rs199024  | 23572989 | rs191815  | 0.287 |
| 6  | 2355091   | rs199024  | 23572989 | rs191815  | 0.379 |
| 6  | 2355091   | rs199024  | 23572989 | rs191815  | 0.827 |
| 6  | 23572989  | rs191815  | 23584367 | rs187936  | 0.766 |
| 6  | 23572989  | rs191815  | 23584367 | rs187936  | 0.759 |
| 6  | 23572989  | rs191815  | 23584367 | rs187936  | 0.835 |
| 6  | 23591265  | rs199067  | 23595836 | rs199059  | 0.827 |
| 6  | 23591265  | rs199067  | 23595836 | rs199059  | 1.000 |
| 6  | 25070407  | rs393228  | 25071608 | rs1739326 | 0.200 |
| 6  | 26319374  | rs16891417| 26337127 | rs2143345 | 0.374 |
| 6  | 26488524  | rs3757142 | 26489295 | rs3757149 | 0.765 |
| 6  | 29739723  | rs3130252 | 29786499 | rs1610593 | 0.333 |
| 6  | 29739723  | rs3130252 | 29790880 | rs1627465 | 0.322 |
| 6  | 29739723  | rs3130252 | 30239328 | rs9261536 | 1.000 |
| 6  | 29786499  | rs1610593 | 29790880 | rs1627465 | 0.978 |
| 6  | 29786499  | rs1610593 | 29811802 | rs9258205 | 0.242 |
| 6  | 29790880  | rs1627465 | 29811802 | rs9258205 | 0.257 |
| 6  | 3122724   | rs2240063 | 31241488 | rs2106074 | 0.216 |
| 6  | 31468074  | rs2596517 | 31526103 | rs2523693 | 0.273 |
| 6  | 33682987  | rs444697  | 3372986 | rs1408711 | 0.332 |
| 6  | 35117174  | rs3800426 | 35117273 | rs2820223 | 0.585 |
| 6  | 35191641  | rs9470131 | 3529492  | rs9470139 | 1.000 |
| 6  | 35191641  | rs9470131 | 35943016 | rs9462141 | 1.000 |
| 6  | 35929492  | rs9470139 | 35943016 | rs9462141 | 1.000 |
| 6  | 36418874  | rs1476017 | 36422250 | rs2015973 | 0.971 |
| 6  | 40379505  | rs1018631 | 40381435 | rs4714329 | 0.808 |
| 6  | 40379505  | rs1018631 | 40400445 | rs715831  | 0.589 |
| 6  | 40381435  | rs4714329 | 40400445 | rs715831  | 0.602 |
| 6  | 40534831  | rs2436731 | 40538982 | rs1433725 | 0.909 |
| 6  | 40632698  | rs7738344 | 40695765 | rs1771294 | 0.406 |
| 6  | 41118346  | rs9369260 | 41122198 | rs6903444 | 0.272 |
| 6  | 41122198  | rs6903444 | 41270869 | rs4711658 | 0.390 |
| 6  | 44747162  | rs11755164| 45008231 | rs3799986 | 0.329 |
| 6  | 44747162  | rs11755164| 45061736 | rs1329716 | 0.224 |
|   |   |   |   |
|---|---|---|---|
| 6 | 44747162 | rs11755164 | 45437467 | rs1852986 | 0.294 |
| 6 | 45008231 | rs3799986 | 45061736 | rs1329716 | 0.498 |
| 6 | 45008231 | rs3799986 | 45437467 | rs1852986 | 0.725 |
| 6 | 45061736 | rs1329716 | 45437467 | rs1852986 | 0.541 |
| 6 | 46077981 | rs3777618 | 46083313 | rs3777622 | 0.960 |
| 6 | 46311588 | rs2584076 | 46391881 | rs16874575 | 0.233 |
| 6 | 46939731 | rs630033 | 46940057 | rs628638 | 1.000 |
| 6 | 47018374 | rs2077055 | 47047792 | rs1413933 | 0.769 |
| 6 | 50873311 | rs2206272 | 51033290 | rs9473953 | 0.248 |
| 6 | 51426093 | rs4435937 | 51474621 | rs4339454 | 0.608 |
| 6 | 51426093 | rs4435937 | 51491555 | rs10948617 | 0.596 |
| 6 | 51426093 | rs4435937 | 51491628 | rs10948618 | 0.538 |
| 6 | 51426093 | rs4435937 | 51492968 | rs4644046 | 0.578 |
| 6 | 51426093 | rs4435937 | 51556765 | rs10948634 | 0.245 |
| 6 | 51426093 | rs4435937 | 51576003 | rs6930919 | 0.279 |
| 6 | 51474621 | rs4339454 | 51491555 | rs10948617 | 0.902 |
| 6 | 51474621 | rs4339454 | 51491628 | rs10948618 | 0.833 |
| 6 | 51474621 | rs4339454 | 51492968 | rs4644046 | 0.906 |
| 6 | 51474621 | rs4339454 | 51526189 | rs10948623 | 0.323 |
| 6 | 51474621 | rs4339454 | 51543535 | rs12214769 | 0.306 |
| 6 | 51474621 | rs4339454 | 51556765 | rs10948634 | 0.523 |
| 6 | 51474621 | rs4339454 | 51576003 | rs6930919 | 0.478 |
| 6 | 51474621 | rs4339454 | 51577180 | rs1108202 | 0.474 |
| 6 | 51491555 | rs10948617 | 51491628 | rs10948618 | 0.951 |
| 6 | 51491555 | rs10948617 | 51492968 | rs4644046 | 1.000 |
| 6 | 51491555 | rs10948617 | 51526189 | rs10948623 | 0.327 |
| 6 | 51491555 | rs10948617 | 51543535 | rs12214769 | 0.310 |
| 6 | 51491555 | rs10948617 | 51556765 | rs10948634 | 0.499 |
| 6 | 51491555 | rs10948617 | 51576003 | rs6930919 | 0.526 |
| 6 | 51491555 | rs10948617 | 51577180 | rs1108202 | 0.523 |
| 6 | 51491628 | rs10948618 | 51492968 | rs4644046 | 0.933 |
| 6 | 51491628 | rs10948618 | 51526189 | rs10948623 | 0.334 |
| 6 | 51491628 | rs10948618 | 51543535 | rs12214769 | 0.316 |
| 6 | 51491628 | rs10948618 | 51556765 | rs10948634 | 0.522 |
| 6 | 51491628 | rs10948618 | 51576003 | rs6930919 | 0.555 |
| 6 | 51491628 | rs10948618 | 51577180 | rs1108202 | 0.554 |
| 6 | 51492968 | rs4644046 | 51526189 | rs10948623 | 0.285 |
| 6 | 51492968 | rs4644046 | 51543535 | rs12214769 | 0.275 |
| 6 | 51492968 | rs4644046 | 51556765 | rs10948634 | 0.447 |
| 6 | 51492968 | rs4644046 | 51576003 | rs6930919 | 0.481 |
| 6 | 51492968 | rs4644046 | 51577180 | rs1108202 | 0.473 |
| 6 | 51526189 | rs10948623 | 51543535 | rs12214769 | 0.938 |
| 6 | 51526189 | rs10948623 | 51556765 | rs10948634 | 0.467 |
| 6 | 51526189 | rs10948623 | 51576003 | rs6930919 | 0.398 |
|   |       |       |       |       |       |
|---|-------|-------|-------|-------|-------|
| 6 | 51526189 | rs10948623 | 51577180 | rs1108202 | 0.392 |
| 6 | 51543535 | rs12214769 | 51556765 | rs10948634 | 0.493 |
| 6 | 51543535 | rs12214769 | 51576003 | rs6930919 | 0.419 |
| 6 | 51543535 | rs12214769 | 51577180 | rs1108202 | 0.413 |
| 6 | 51556765 | rs10948634 | 51576003 | rs6930919 | 0.859 |
| 6 | 51556765 | rs10948634 | 51577180 | rs1108202 | 0.855 |
| 6 | 51576003 | rs6930919 | 51577180 | rs1108202 | 1.000 |
| 6 | 52482782 | rs6917841 | 52516853 | rs2179803 | 0.584 |
| 6 | 53127129 | rs6913533 | 53128723 | rs6920669 | 0.848 |
| 6 | 55479622 | rs4626423 | 55503779 | rs9475342 | 0.770 |
| 6 | 55891681 | rs6459114 | 55902102 | rs6926110 | 0.603 |
| 6 | 56234901 | rs12525967 | 56254519 | rs2397214 | 0.212 |
| 6 | 66129666 | rs9453277 | 66132201 | rs12205154 | 0.990 |
| 6 | 66760624 | rs12202805 | 66875325 | rs3846808 | 0.960 |
| 6 | 66760624 | rs12202805 | 66946904 | rs9354391 | 0.372 |
| 6 | 66760624 | rs12202805 | 67061694 | rs17644076 | 0.576 |
| 6 | 66875325 | rs3846808 | 66946904 | rs9354391 | 0.358 |
| 6 | 66875325 | rs3846808 | 67061694 | rs17644076 | 0.571 |
| 6 | 66946904 | rs9354391 | 67061694 | rs17644076 | 0.379 |
| 6 | 67408933 | rs4710324 | 67459352 | rs4493734 | 0.530 |
| 6 | 67408933 | rs4710324 | 67577822 | rs9360234 | 0.413 |
| 6 | 67408933 | rs4710324 | 67586556 | rs9351600 | 0.331 |
| 6 | 67459352 | rs4493734 | 67586556 | rs9351600 | 0.216 |
| 6 | 67577822 | rs9360234 | 67586556 | rs9351600 | 0.831 |
| 6 | 67702785 | rs9360251 | 67721287 | rs9345935 | 0.217 |
| 6 | 67702785 | rs9360251 | 67728137 | rs6933579 | 0.799 |
| 6 | 67702785 | rs9360251 | 67822412 | rs2502279 | 0.307 |
| 6 | 67721287 | rs9345935 | 67728137 | rs6933579 | 0.245 |
| 6 | 67721287 | rs9345935 | 67738143 | rs4292508 | 0.246 |
| 6 | 67728137 | rs6933579 | 67822412 | rs2502279 | 0.403 |
| 6 | 68371284 | rs2747156 | 68398350 | rs2818113 | 0.753 |
| 6 | 68371284 | rs2747156 | 68414245 | rs2179964 | 0.719 |
| 6 | 68371284 | rs2747156 | 68421587 | rs9342657 | 0.244 |
| 6 | 68371284 | rs2747156 | 68428695 | rs2816902 | 0.590 |
| 6 | 68371284 | rs2747156 | 68454951 | rs2493374 | 0.413 |
| 6 | 68371284 | rs2747156 | 68562671 | rs9454286 | 0.221 |
| 6 | 68398350 | rs2818113 | 68414245 | rs2179964 | 0.962 |
| 6 | 68398350 | rs2818113 | 68421587 | rs9342657 | 0.284 |
| 6 | 68398350 | rs2818113 | 68428695 | rs2816902 | 0.679 |
| 6 | 68398350 | rs2818113 | 68454951 | rs2493374 | 0.456 |
| 6 | 68398350 | rs2818113 | 68562671 | rs9454286 | 0.342 |
| 6 | 68398350 | rs2818113 | 68563436 | rs12203654 | 0.407 |
| 6 | 68414245 | rs2179964 | 68421587 | rs9342657 | 0.298 |
| 6 | 68414245 | rs2179964 | 68428695 | rs2816902 | 0.671 |
| Locus | rsID | Locus | rsID | Locus | rsID | Locus | rsID | P-value |
|-------|------|-------|------|-------|------|-------|------|---------|
| 6841245 | rs2179964 | 68454951 | rs2493374 | 0.472 |
| 6841245 | rs2179964 | 68562671 | rs9454286 | 0.361 |
| 6841245 | rs2179964 | 68563436 | rs12203654 | 0.410 |
| 6841245 | rs2179964 | 68565666 | rs6913371 | 0.410 |
| 68421587 | rs9342657 | 68428695 | rs2493374 | 0.649 |
| 68421587 | rs9342657 | 68444789 | rs2493374 | 0.706 |
| 68421587 | rs9342657 | 68563436 | rs12203654 | 0.226 |
| 68421587 | rs9342657 | 68563436 | rs6913371 | 0.226 |
| 68428695 | rs2816902 | 68428791 | rs2493374 | 0.649 |
| 68428695 | rs2816902 | 68562671 | rs9454286 | 0.306 |
| 68428695 | rs2816902 | 68563436 | rs12203654 | 0.557 |
| 68428695 | rs2816902 | 68563436 | rs6913371 | 0.557 |
| 68428695 | rs2816902 | 68583232 | rs1913477 | 0.496 |
| 68444789 | rs17546195 | 68562671 | rs9454286 | 0.268 |
| 68454951 | rs2493374 | 68459204 | rs9454233 | 0.363 |
| 68454951 | rs2493374 | 68562671 | rs9454286 | 0.502 |
| 68454951 | rs2493374 | 68563436 | rs12203654 | 0.770 |
| 68454951 | rs2493374 | 68565666 | rs6913371 | 0.770 |
| 68454951 | rs2493374 | 68583232 | rs1913477 | 0.707 |
| 68454951 | rs2493374 | 68583437 | rs1913478 | 0.704 |
| 68459204 | rs9454233 | 68563436 | rs12203654 | 0.228 |
| 68459204 | rs9454233 | 68565666 | rs6913371 | 0.228 |
| 68459204 | rs9454233 | 68583232 | rs1913477 | 0.231 |
| 68459204 | rs9454233 | 68583437 | rs1913478 | 0.226 |
| 68562671 | rs9454286 | 68563436 | rs12203654 | 0.698 |
| 68562671 | rs9454286 | 68565666 | rs6913371 | 0.698 |
| 68562671 | rs9454286 | 68583232 | rs1913477 | 0.738 |
| 68563436 | rs12203654 | 68583232 | rs1913477 | 0.738 |
| 68563436 | rs12203654 | 68583437 | rs1913478 | 0.735 |
| 68563436 | rs12203654 | 68583232 | rs1913477 | 0.902 |
| 68563436 | rs12203654 | 68583437 | rs1913478 | 0.901 |
| 68565666 | rs6913371 | 68583232 | rs1913477 | 0.902 |
| 68565666 | rs6913371 | 68583437 | rs1913478 | 0.901 |
| 68583232 | rs1913477 | 68583437 | rs1913478 | 1.000 |
| 69233497 | rs1388056 | 69347352 | rs10455670 | 0.228 |
| 69347352 | rs1388056 | 69347352 | rs10455670 | 0.228 |
| 70594155 | rs2487399 | 70605345 | rs2487411 | 0.595 |
| 70594155 | rs2487399 | 70605345 | rs2487412 | 0.449 |
| 70605345 | rs2487411 | 70605345 | rs2487412 | 0.831 |
| 70909214 | rs9342783 | 70943464 | rs3806051 | 0.398 |
| 70943464 | rs3806051 | 71025381 | rs9354910 | 0.297 |
|   |   | rs12204236 |   | rs12525003 | 0.989 |
|---|---|------------|---|------------|------|
| 6 | 72298055 | rs10498896 | 72304069 | rs10805983 | 0.928 |
| 6 | 74645033 | rs10498896 | 74647350 | rs12194928 | 0.929 |
| 6 | 74645033 | rs10498896 | 74663429 | rs10805983 | 0.952 |
| 6 | 74645033 | rs10498896 | 7467157  | rs12194928 | 0.953 |
| 6 | 74645033 | rs10498896 | 74731052 | rs12194422 | 0.575 |
| 6 | 74647350 | rs41475845 | 74663429 | rs10805983 | 0.952 |
| 6 | 74647350 | rs41475845 | 74667157 | rs12194928 | 0.953 |
| 6 | 74647350 | rs41475845 | 74731052 | rs12194422 | 0.578 |
| 6 | 74663429 | rs10805983 | 74665814 | rs12194928 | 1.000 |
| 6 | 74663429 | rs10805983 | 74667157 | rs12194928 | 0.605 |
| 6 | 74665814 | rs12194928 | 7467157  | rs12194422 | 0.609 |
| 6 | 74667157 | rs12194928 | 74731052 | rs12194422 | 0.609 |
| 6 | 78238389 | rs1458429  | 78373630 | rs1458424  | 0.245 |
| 6 | 78459796 | rs3846758  | 78642548 | rs7764370  | 0.681 |
| 6 | 80203374 | rs9343912  | 80380553 | rs2812683  | 0.258 |
| 6 | 80203374 | rs9343912  | 80382049 | rs2655697  | 0.261 |
| 6 | 80380553 | rs2812683  | 80382049 | rs2655697  | 0.981 |
| 6 | 80902708 | rs2322633  | 81039931 | rs660888   | 0.375 |
| 6 | 81994601 | rs7744820  | 82004634 | rs9361775  | 0.824 |
| 6 | 82304961 | rs16893194 | 82325403 | rs1935003  | 0.607 |
| 6 | 84343196 | rs11756746 | 84356081 | rs3757007  | 0.818 |
| 6 | 84343196 | rs11756746 | 84356900 | rs13212099 | 0.818 |
| 6 | 84356081 | rs3757007  | 84356900 | rs13212099 | 1.000 |
| 6 | 85547923 | rs215936   | 85573317 | rs215921   | 0.000 |
| 6 | 85821656 | rs1923587  | 85875339 | rs1325975  | 0.481 |
| 6 | 86451122 | rs2484355  | 86503587 | rs6454487  | 0.496 |
| 6 | 86451122 | rs2484355  | 86576474 | rs9450333  | 0.225 |
| 6 | 86451122 | rs2484355  | 86761974 | rs6933377  | 0.623 |
| 6 | 86503587 | rs6454487  | 86761974 | rs9450333  | 0.608 |
| 6 | 86503587 | rs6454487  | 86761974 | rs6933377  | 0.696 |
| 6 | 86576474 | rs9450333  | 86761974 | rs6933377  | 0.408 |
| 6 | 86955183 | rs6940217  | 86970480 | rs7760257  | 0.972 |
| 6 | 89805824 | rs205217   | 89818726 | rs1980986  | 0.304 |
| 6 | 92589899 | rs2501650  | 92617314 | rs2454268  | 0.669 |
| 6 | 94544526 | rs9354041  | 94544579 | rs9354042  | 1.000 |
| 6 | 94544526 | rs9354041  | 94544635 | rs9351380  | 0.984 |
| 6 | 94544526 | rs9354041  | 94593345 | rs6941459  | 0.215 |
| 6 | 94544579 | rs9354042  | 94544635 | rs9351380  | 0.984 |
| 6 | 94544579 | rs9354042  | 94593345 | rs6941459  | 0.215 |
| 6 | 94544635 | rs9351380  | 94593345 | rs6941459  | 0.209 |
| Chromosome | rsID1 | rsID2 | rsID3 | p-value |
|------------|-------|-------|-------|----------|
| 6          | 94593345 | rs6941459 | 94676185 | rs1937357 | 0.372 |
| 6          | 94593345 | rs6941459 | 94690716 | rs1219033 | 0.376 |
| 6          | 94593345 | rs6941459 | 94741047 | rs4463230 | 0.396 |
| 6          | 94676185 | rs1937357 | 94690716 | rs1219033 | 0.912 |
| 6          | 94676185 | rs1937357 | 94741047 | rs4463230 | 0.725 |
| 6          | 94690716 | rs1219033 | 94741047 | rs4463230 | 0.706 |
| 6          | 95037294 | rs220970  | 95050803 | rs397178  | 0.535 |
| 6          | 95037294 | rs220970  | 95050803 | rs397178  | 1.000 |
| 6          | 95037294 | rs220970  | 95050803 | rs397178  | 0.322 |
| 6          | 96144620 | rs9400893 | 96171771 | rs9489578 | 0.725 |
| 6          | 96144620 | rs9400893 | 96171771 | rs9489578 | 0.706 |
| 6          | 96144620 | rs9400893 | 96171771 | rs9489578 | 0.840 |
| 6          | 96144620 | rs9400893 | 96171771 | rs9489578 | 0.860 |
| Chromosome | Position | Marker | Distance | Distance | p-value |
|------------|----------|--------|----------|----------|---------|
| 6          | 125068862| rs868549| 125081641| rs1415762| 0.344   |
| 6          | 125081311| rs2875776| 125081641| rs1415762| 0.386   |
| 6          | 127467150| rs11154383| 127479310| rs2800708| 0.310   |
| 6          | 127479310| rs2800708| 127488303| rs9482771| 0.584   |
| 6          | 128854778| rs17460940| 128870929| rs17461290| 0.852   |
| 6          | 129430224| rs7738996| 129430959| rs6569580| 1.000   |
| 6          | 129430224| rs7738996| 129444415| rs4327720| 1.000   |
| 6          | 133915179| rs9285474| 133983767| rs7452066| 0.275   |
| 6          | 133983767| rs7452066| 134003067| rs6907934| 0.268   |
| 6          | 137291664| rs6570112| 137298020| rs7745532| 0.454   |
| 6          | 137888129| rs9484058| 137906100| rs203694 | 0.910   |
| 6          | 140276853| rs624260 | 140279510| rs591822 | 0.988   |
| 6          | 141128904| rs988434 | 141172474| rs686347 | 0.611   |
| 6          | 141128904| rs988434 | 141217062| rs677319 | 0.439   |
| 6          | 143479138| rs200153 | 143522436| rs6908441| 0.248   |
| 6          | 143927818| rs9376756| 143954988| rs9321927| 0.551   |
| 6          | 144903639| rs10499231| 144970410| rs9403569| 0.210   |
| 6          | 144960512| rs1918744| 144970410| rs9403569| 0.771   |
| 6          | 14559485| rs7757259| 145599134| rs6907934| 0.268   |
| 6          | 145648801| rs551096 | 145649688| rs9373448| 0.535   |
| 6          | 148417762| rs1881825| 148451024| rs7764264| 0.346   |
| 6          | 151759227| rs7746473| 151785755| rs3800270| 0.744   |
| 6          | 153237927| rs583501 | 153259954| rs656610 | 0.906   |
| 6          | 153237927| rs583501 | 153261967| rs633399 | 0.722   |
| 6          | 153259954| rs656610 | 153261967| rs633399 | 0.789   |
| 6          | 155297981| rs9397210| 155300670| rs9321927| 0.551   |
| 6          | 159541322| rs294922 | 159555931| rs400477 | 0.284   |
| 6          | 159541322| rs294922 | 159561726| rs427072 | 0.884   |
| 6          | 159541322| rs294922 | 159575663| rs2932987| 0.326   |
| 6          | 159555931| rs400477 | 159561726| rs427072 | 0.291   |
| 6          | 159555931| rs400477 | 159575663| rs2932987| 0.961   |
| 6          | 159561726| rs427072 | 159575663| rs2932987| 0.333   |
| 6          | 161991625| rs2281403| 161993412| rs7763253| 0.992   |
| 6          | 162112846| rs3016563| 162141710| rs3016551| 0.693   |
| 6          | 162656326| rs6455807| 162656490| rs7740928| 0.595   |
| 6          | 162656326| rs6455807| 162666349| rs6930880| 0.611   |
| 6          | 162656490| rs7740928| 162666349| rs6930880| 0.313   |
| 6          | 162656490| rs7740928| 162728999| rs10945825| 0.229   |
| 6          | 163756129| rs2282859| 167371516| rs16899825| 0.885   |
| 6          | 167434073| rs4710183| 167436448| rs975822 | 0.325   |
| 6          | 167434073| rs4710183| 167443385| rs6907666| 0.508   |
| Chr | SNP1   | SNP2   | SNP3   | P1      | P2      |
|-----|--------|--------|--------|---------|---------|
| 6   | 167434073 | rs4710183 | 167444229 | rs2021033 | 0.427   |
| 6   | 167434073 | rs4710183 | 167448022 | rs6456158 | 0.389   |
| 6   | 167436448 | rs975822  | 167443385 | rs6907666 | 0.468   |
| 6   | 167436448 | rs975822  | 167444229 | rs2021033 | 0.574   |
| 6   | 167436448 | rs975822  | 167448022 | rs6456158 | 0.583   |
| 6   | 167443385 | rs6907666 | 167444229 | rs2021033 | 0.525   |
| 6   | 167443385 | rs6907666 | 167448022 | rs6456158 | 0.368   |
| 6   | 167444229 | rs2021033 | 167448022 | rs6456158 | 0.595   |
| 6   | 169306641 | rs6908401 | 169326313 | rs1266190 | 0.645   |
| 6   | 169554513 | rs2075978 | 169559926 | rs4469299 | 0.851   |
| 6   | 169554513 | rs2075978 | 169677751 | rs16888111 | 0.207   |
| 6   | 170525166 | rs1022615 | 170554104 | rs9460139 | 0.671   |
| 7   | 828052   | rs7785538 | 829331  | rs11766365 | 0.827   |
| 7   | 828052   | rs7785538 | 832995  | rs6973278  | 0.208   |
| 7   | 828052   | rs7785538 | 868920  | rs7785252  | 0.413   |
| 7   | 829331   | rs11766365 | 832995 | rs6973278  | 0.201   |
| 7   | 829331   | rs11766365 | 868920 | rs7785252  | 0.393   |
| 7   | 832995   | rs6973278  | 868920  | rs7785252  | 0.438   |
| 7   | 2792448  | rs2527684  | 2826743 | rs2644295  | 0.813   |
| 7   | 3121336  | rs6958161  | 3121827 | rs10951052 | 0.266   |
| 7   | 3121336  | rs6958161  | 3122339 | rs4722438  | 0.394   |
| 7   | 3121827  | rs10951052 | 3122339 | rs4722438  | 0.610   |
| 7   | 3279396  | rs2049477  | 3412717 | rs41363846 | 0.225   |
| 7   | 3412717  | rs41363846 | 3423822 | rs17741019 | 0.340   |
| 7   | 3841536  | rs13236719 | 3882090 | rs6462411 | 0.234   |
| 7   | 7164598  | rs12536325 | 7245535 | rs10279432 | 0.422   |
| 7   | 7358756  | rs1294620  | 7359239 | rs1294622 | 0.699   |
| 7   | 7358756  | rs1294620  | 7370503 | rs6974119  | 0.699   |
| 7   | 7359239  | rs1294622  | 7370503 | rs6974119  | 1.000   |
| 7   | 8362245  | rs2110521  | 8414480 | rs6463805  | 0.437   |
| 7   | 9061487  | rs13240893 | 9086521 | rs12702864 | 0.625   |
| 7   | 9179513  | rs449245   | 9180202 | rs369785  | 0.983   |
| 7   | 9200867  | rs17792244 | 9242493 | rs2350432 | 0.247   |
| 7   | 9512802  | rs2713342  | 9526119 | rs4548084 | 0.529   |
| 7   | 9512802  | rs2713342  | 9535960 | rs10245938 | 0.875   |
| 7   | 9512802  | rs2713342  | 9538623 | rs17161716 | 0.253   |
| 7   | 9512802  | rs2713342  | 9612145 | rs1505322 | 0.243   |
| 7   | 9512802  | rs2713342  | 9612572 | rs1354607 | 0.243   |
| 7   | 9526119  | rs4548084  | 953049  | rs1505310 | 0.203   |
| 7   | 9526119  | rs4548084  | 9535960 | rs10245938 | 0.526   |
| 7   | 9535960  | rs10245938 | 9538623 | rs17161716 | 0.204   |
| 7   | 9535960  | rs10245938 | 9612145 | rs1505322 | 0.306   |
| 7   | 9535960  | rs10245938 | 9612572 | rs1354607 | 0.306   |
| 7   | 9612145  | rs1505322  | 9612572 | rs1354607 | 1.000   |
| Chromosome | Position (10^6) | SNP 1 | SNP 2 | SNP 3 | p-Value |
|------------|----------------|-------|-------|-------|---------|
| 7          | 10087591       | rs12702976 | 10090856 | rs12702978 | 0.427   |
| 7          | 10339966       | rs4720876  | 10344828 | rs6463990  | 0.802   |
| 7          | 11364881       | rs7794021  | 11431856 | rs1468244  | 0.647   |
| 7          | 12085773       | rs12536861 | 12121572 | rs10950385 | 0.395   |
| 7          | 12409567       | rs17166013 | 12473257 | rs17166041 | 0.749   |
| 7          | 14423427       | rs34628921 | 14443632 | rs196751   | 0.253   |
| 7          | 16520773       | rs11772541 | 16558354 | rs10228487 | 0.211   |
| 7          | 17792353       | rs7794021  | 17950332 | rs4544985  | 0.495   |
| 7          | 17821057       | rs2723497  | 17950332 | rs4544985  | 0.398   |
| 7          | 19353457       | rs6967671  | 19366356 | rs9639329  | 0.548   |
| 7          | 23729805       | rs10950957 | 23859818 | rs7792262  | 0.240   |
| 7          | 23859818       | rs6957981  | 23882268 | rs7792262  | 0.240   |
| 7          | 23922398       | rs17148510 | 23924393 | rs7780155  | 0.922   |
| 7          | 24147580       | rs198712   | 24179881 | rs156318   | 0.456   |
| 7          | 24147580       | rs198712   | 24184522 | rs156308   | 0.448   |
| 7          | 24184522       | rs156308   | 24224231 | rs16217    | 0.377   |
| 7          | 25966662       | rs6946189  | 25986081 | rs4722557  | 0.987   |
| 7          | 28759930       | rs35010731 | 28784337 | rs35910392 | 0.750   |
| 7          | 28766752       | rs4722842  | 28805091 | rs4722855  | 0.566   |
| 7          | 28766752       | rs4722842  | 28845849 | rs4722858  | 0.490   |
| 7          | 28805091       | rs4722855  | 28811671 | rs6977628  | 0.320   |
| 7          | 28805091       | rs4722855  | 28845849 | rs4722858  | 0.750   |
| 7          | 28805091       | rs4722855  | 28857274 | rs768229   | 0.265   |
| 7          | 28811671       | rs6977628  | 28845849 | rs4722858  | 0.323   |
| 7          | 28811671       | rs6977628  | 28857274 | rs768229   | 0.514   |
| 7          | 28845849       | rs4722858  | 28857274 | rs768229   | 0.218   |
| 7          | 31515561       | rs7803617  | 31515779 | rs10228992 | 1.000   |
| 7          | 31610170       | rs38327    | 31639395 | rs38379    | 0.345   |
| 7          | 31610170       | rs38327    | 31658222 | rs3735424  | 0.439   |
| 7          | 32235840       | rs7803347  | 32243806 | rs12538506 | 0.830   |
| 7          | 37313843       | rs9655380  | 37314747 | rs2701003  | 0.498   |
| 7          | 38768570       | rs3801140  | 38925791 | rs10255290 | 0.209   |
| 7          | 39619158       | rs1113117  | 39708450 | rs2158549  | 0.668   |
| 7          | 39707012       | rs7778955  | 39708450 | rs2158549  | 0.247   |
| 7          | 41697456       | rs2237436  | 41697578 | rs2237435  | 0.707   |
| 7          | 41905263       | rs1476666  | 41940034 | rs6952496  | 0.281   |
| 7          | 42414251       | rs1560617  | 42417749 | rs12333485 | 0.953   |
| 7          | 44988782       | rs1557934  | 45021739 | rs6969223  | 0.899   |
| 7          | 44988782       | rs1557934  | 45040324 | rs1294966  | 0.863   |
| 7          | 44988782       | rs1557934  | 45071642 | rs3735486  | 0.309   |
| 7          | 45021739       | rs6969223  | 45040324 | rs1294966  | 0.969   |
| 7          | 45021739       | rs6969223  | 45071642 | rs3735486  | 0.375   |
| Chromosome | Gene ID | SNP1    | SNP2    | SNP3    | p-value |
|------------|---------|---------|---------|---------|---------|
| 7          | 45040324| rs1294966| 45071642| rs3735486| 0.337   |
| 7          | 45071642| rs3735486| 45113181| rs3757572| 0.202   |
| 7          | 47009631| rs10245153| 47043330| rs12533855| 0.402   |
| 7          | 48059930| rs10499672| 48060754| rs7803787| 1.000   |
| 7          | 51776473| rs17580955| 51780004| rs10488099| 0.682   |
| 7          | 51995993| rs387130  | 52003163| rs417184  | 1.000   |
| 7          | 54931888| rs6593195 | 54933847| rs17580955| 0.682   |
| 7          | 55345979| rs2030807 | 55358496| rs6593233 | 1.000   |
| 7          | 55358496| rs2177807 | 55373694| rs6593233 | 1.000   |
| 7          | 63308111| rs10949880| 63328963| rs2164110 | 0.367   |
| 7          | 63328963| rs2164110 | 63389515| rs10949887| 0.365   |
| 7          | 63389515| rs10949887| 63393541| rs17768351| 0.221   |
| 7          | 63389515| rs10949887| 63473967| rs10949909| 0.270   |
| 7          | 63389515| rs10949887| 63480341| rs12530839| 0.276   |
| 7          | 63389515| rs10949887| 63606271| rs34764583| 0.280   |
| 7          | 63382364| rs687547  | 63389515| rs10949887| 0.374   |
| 7          | 63382364| rs687547  | 63393541| rs17768351| 0.255   |
| 7          | 63389515| rs10949887| 63393541| rs17768351| 0.609   |
| 7          | 63389515| rs10949887| 63473967| rs10949909| 0.414   |
| 7          | 63389515| rs10949887| 63480341| rs12530839| 0.421   |
| 7          | 63389515| rs10949887| 63606271| rs34764583| 0.395   |
| 7          | 63393541| rs17768351| 63473967| rs10949909| 0.672   |
| 7          | 63393541| rs17768351| 63480341| rs12530839| 0.681   |
| 7          | 63393541| rs17768351| 63606271| rs34764583| 0.444   |
| 7          | 63473967| rs10949909| 63480341| rs12530839| 0.985   |
| 7          | 63473967| rs10949909| 63606271| rs34764583| 0.640   |
| 7          | 63480341| rs12530839| 63606271| rs34764583| 0.651   |
| 7          | 65053082| rs1917563 | 65217157| rs6946143 | 0.546   |
| 7          | 65053082| rs1917563 | 65271756| rs10950029| 0.313   |
| 7          | 65217157| rs6946143 | 65271756| rs10950029| 0.570   |
| 7          | 67324499| rs12698679| 67395195| rs6971845 | 0.342   |
| 7          | 67324499| rs12698679| 67406049| rs12698688| 0.349   |
| 7          | 67395195| rs6971845 | 67406049| rs12698688| 0.915   |
| 7          | 67807177| rs11768294| 67842575| rs880330  | 0.791   |
| 7          | 70093809| rs4719045 | 70129334| rs6969013 | 0.495   |
| 7          | 75532015| rs11972240| 75534356| rs10476  | 1.000   |
| 7          | 75532015| rs11972240| 75613946| rs7794454 | 0.916   |
| 7          | 75532015| rs11972240| 75648409| rs9800948 | 0.967   |
| 7          | 75532015| rs11972240| 75648409| rs9800948 | 0.913   |
| 7          | 75613946| rs7794454 | 75648409| rs9800948 | 0.966   |
| 7          | 76689259| rs7810066 | 76708934| rs17230010| 0.466   |
| 7          | 77138046| rs17156320| 77146231| rs17807185| 0.521   |
| # | SNPs                                    | rsids                                | P-values                |
|---|----------------------------------------|--------------------------------------|------------------------|
| 7 | 77138046 rs17156320 77152754 rs12113119 | 0.510                                |                        |
| 7 | 77146231 rs17807185 77152754 rs12113119 | 0.977                                |                        |
| 7 | 78722211 rs7782585 78873419 rs9969364  | 0.402                                |                        |
| 7 | 79981291 rs17260734 79981364 rs17260769 | 1.000                                |                        |
| 7 | 82226650 rs13438494 82233177 rs34608268 | 0.575                                |                        |
| 7 | 82226650 rs13438494 82240309 rs10954689 | 0.344                                |                        |
| 7 | 82226650 rs13438494 82322986 rs7795945  | 0.220                                |                        |
| 7 | 82226650 rs13438494 82340399 rs1986742  | 0.344                                |                        |
| 7 | 82233177 rs34608268 82322986 rs7795945  | 0.387                                |                        |
| 7 | 82233177 rs34608268 82340399 rs1986742  | 0.344                                |                        |
| 7 | 82322986 rs7795945 82340399 rs1986742  | 0.249                                |                        |
| 7 | 83502065 rs17158535 83543343 rs12669854 | 0.336                                |                        |
| 7 | 83802374 rs520536 83939710 rs12669854  | 0.208                                |                        |
| 7 | 83939710 rs1236923 84197220 rs4728560  | 0.247                                |                        |
| 7 | 83939710 rs1236923 84197220 rs4728560  | 0.247                                |                        |
| 7 | 84197220 rs4728560 84281713 rs11764839 | 0.800                                |                        |
| 7 | 84197220 rs4728560 84291220 rs12672643 | 0.201                                |                        |
| 7 | 84197220 rs4728560 84291612 rs4395839  | 0.201                                |                        |
| 7 | 84197220 rs4728560 84341515 rs7796484  | 0.481                                |                        |
| 7 | 84281713 rs11764839 84291220 rs12672643 | 0.989                                |                        |
| 7 | 84281713 rs11764839 84291612 rs4395839  | 0.989                                |                        |
| 7 | 84281713 rs11764839 84341515 rs7796484  | 0.631                                |                        |
| 7 | 84291220 rs12672643 84291612 rs4395839  | 1.000                                |                        |
| 7 | 84291220 rs12672643 84341515 rs7796484  | 0.624                                |                        |
| 7 | 84291612 rs4395839 84341515 rs7796484  | 0.624                                |                        |
| 7 | 85285979 rs1911993 85368185 rs10280835  | 0.802                                |                        |
| 7 | 85436441 rs17313775 85509840 rs17316106 | 0.906                                |                        |
| 7 | 86225947 rs2888551 86243244 rs17160978  | 0.418                                |                        |
| 7 | 86298766 rs17161024 86305187 rs10952891 | 0.948                                |                        |
| 7 | 91278295 rs1209001 91455027 rs10488509  | 0.677                                |                        |
| 7 | 91347487 rs2269811 91379438 rs403      | 0.557                                |                        |
| 7 | 91347487 rs2269811 91694752 rs11769780 | 0.555                                |                        |
| 7 | 91379438 rs403 91694752 rs11769780      | 0.281                                |                        |
| 7 | 95713592 rs12704838 95854947 rs12536064 | 0.360                                |                        |
| 7 | 103189479 rs10487172 103271612 rs1323763 | 0.347                                |                        |
| 7 | 103189479 rs10487172 103305285 rs2283034 | 0.321                                |                        |
| 7 | 103271612 rs13233763 103305285 rs2283034 | 0.954                                |                        |
| 7 | 105609420 rs6954754 105620778 rs6951857 | 0.950                                |                        |
| 7 | 107148672 rs4730253 107183738 rs4730259 | 0.789                                |                        |
| Year | Chromosome | SNP         | Age | P-value     |
|------|-------------|-------------|-----|-------------|
| 2009 | 1           | rs10808221  | 103 | 0.777       |
| 2010 | 1           | rs10500106  | 103 | 0.266       |
| 2011 | 1           | rs12706408  | 103 | 0.247       |
| 2012 | 1           | rs10257987  | 103 | 1.000       |
| 2013 | 1           | rs12706650  | 103 | 0.344       |
| 2014 | 1           | rs10277086  | 103 | 0.218       |
| 2015 | 1           | rs10271752  | 103 | 0.618       |
| 2016 | 1           | rs10216230  | 103 | 0.344       |
| 2017 | 1           | rs10216230  | 103 | 0.598       |
| 2018 | 1           | rs10216230  | 103 | 0.598       |
| 2019 | 1           | rs10216230  | 103 | 0.541       |
| 2020 | 1           | rs10216230  | 103 | 0.582       |
| 2021 | 1           | rs10215501  | 103 | 0.618       |
| 2022 | 1           | rs10215501  | 103 | 0.344       |
| 2023 | 1           | rs10215501  | 103 | 0.598       |
| 2024 | 1           | rs10215501  | 103 | 0.598       |
| 2025 | 1           | rs10215501  | 103 | 0.541       |
| 2026 | 1           | rs10215501  | 103 | 0.582       |
| 2027 | 1           | rs10217175  | 103 | 0.253       |
| 2028 | 1           | rs10217175  | 103 | 0.789       |
| 2029 | 1           | rs10217175  | 103 | 0.789       |
| 2030 | 1           | rs10217175  | 103 | 0.896       |
| 2031 | 1           | rs10217175  | 103 | 0.768       |
| 2032 | 1           | rs2396570   | 103 | 0.705       |
| 2033 | 1           | rs2396570   | 103 | 0.242       |
| 2034 | 1           | rs821785    | 103 | 1.000       |
| 2035 | 1           | rs821785    | 103 | 0.848       |
| 2036 | 1           | rs821785    | 103 | 0.977       |
| 2037 | 1           | rs821787    | 103 | 0.848       |
| 2038 | 1           | rs821787    | 103 | 0.977       |
| 2039 | 1           | rs6948575   | 103 | 0.843       |
| 2040 | 1           | rs7805413   | 120 | 0.225       |
| 2041 | 1           | rs7805413   | 120 | 0.226       |
| 2042 | 1           | rs7805413   | 120 | 0.209       |
| 2043 | 1           | rs10257987  | 120 | 1.000       |
| 2044 | 1           | rs10257987  | 120 | 0.911       |
| 2045 | 1           | rs10257987  | 120 | 0.893       |
| 2046 | 1           | rs9886190   | 120 | 0.911       |
| 2047 | 1           | rs9886190   | 120 | 0.893       |
| 2048 | 1           | rs9886190   | 120 | 0.979       |
| 2049 | 1           | rs2707461   | 120 | 0.922       |
| 2050 | 1           | rs12706408  | 122 | 0.203       |
| 2051 | 1           | rs12706408  | 122 | 0.811       |
| 2052 | 1           | rs12706408  | 122 | 1.000       |
| SNP ID     | rs Number | Genomic Position | MAF | p-value |
|------------|-----------|------------------|-----|---------|
| 127133172  | rs698408  | 127156383         | 0.229 | 0.880   |
| 130971372  | rs10272488| 130971538         | 0.288 | 0.075   |
| 131104065  | rs1106683 | 131104205         | 0.790 | 0.858   |
| 131104065  | rs1106683 | 131104596         | 0.241 | 0.972   |
| 131104065  | rs1106683 | 131108546         | 0.290 | 0.883   |
| 131104065  | rs1106683 | 131108546         | 0.268 | 0.893   |
| 131104065  | rs1106683 | 131108546         | 0.258 | 0.818   |
| 131104065  | rs1106683 | 131108546         | 0.612 | 0.530   |
| 131104065  | rs1106683 | 131108546         | 0.525 | 0.941   |
| 131104065  | rs1106683 | 131108546         | 0.990 | 0.945   |
| 131104065  | rs1106683 | 131108546         | 0.233 | 0.793   |
| 131104065  | rs1106683 | 131108546         | 0.378 | 0.407   |
| 131104065  | rs1106683 | 131108546         | 0.216 | 0.963   |
| 131104065  | rs1106683 | 131108546         | 0.407 | 0.972   |
| 131104065  | rs1106683 | 131108546         | 0.858 | 0.883   |
| 131104065  | rs1106683 | 131108546         | 0.757 | 0.858   |
| 131104065  | rs1106683 | 131108546         | 0.952 | 0.945   |
| 131104065  | rs1106683 | 131108546         | 0.437 | 0.793   |
| 131104065  | rs1106683 | 131108546         | 0.378 | 0.972   |
| 131104065  | rs1106683 | 131108546         | 0.216 | 0.963   |
| 131104065  | rs1106683 | 131108546         | 0.407 | 0.972   |
| 131104065  | rs1106683 | 131108546         | 0.858 | 0.883   |
| 131104065  | rs1106683 | 131108546         | 0.757 | 0.858   |
| 131104065  | rs1106683 | 131108546         | 0.952 | 0.945   |
| 131104065  | rs1106683 | 131108546         | 0.437 | 0.793   |
| 131104065  | rs1106683 | 131108546         | 0.378 | 0.972   |
| 131104065  | rs1106683 | 131108546         | 0.216 | 0.963   |
| 131104065  | rs1106683 | 131108546         | 0.407 | 0.972   |
| 131104065  | rs1106683 | 131108546         | 0.858 | 0.883   |
| 131104065  | rs1106683 | 131108546         | 0.757 | 0.858   |
| 131104065  | rs1106683 | 131108546         | 0.952 | 0.945   |
| 131104065  | rs1106683 | 131108546         | 0.437 | 0.793   |
| 131104065  | rs1106683 | 131108546         | 0.378 | 0.972   |
| 131104065  | rs1106683 | 131108546         | 0.216 | 0.963   |
| 131104065  | rs1106683 | 131108546         | 0.407 | 0.972   |
| 131104065  | rs1106683 | 131108546         | 0.858 | 0.883   |
| 131104065  | rs1106683 | 131108546         | 0.757 | 0.858   |
| 131104065  | rs1106683 | 131108546         | 0.952 | 0.945   |
| 131104065  | rs1106683 | 131108546         | 0.437 | 0.793   |
| 131104065  | rs1106683 | 131108546         | 0.378 | 0.972   |
| 131104065  | rs1106683 | 131108546         | 0.216 | 0.963   |
| 131104065  | rs1106683 | 131108546         | 0.407 | 0.972   |
| 131104065  | rs1106683 | 131108546         | 0.858 | 0.883   |
7 148101252  rs2373414  148149944  rs6464926  0.798
7 148111166  rs1558419  148136997  rs740949  0.668
7 148111166  rs1558419  148139130  rs2072408  0.691
7 148111166  rs1558419  148149944  rs6464926  0.259
7 148136997  rs740949  148139130  rs2072408  0.679
7 148136997  rs740949  148149944  rs6464926  0.297
7 148139130  rs2072408  148149944  rs6464926  0.239
7 148545983  rs12704084  148547560  rs1202397  0.413
7 149861625  rs10277380  149876189  rs10236188  0.900
7 150916094  rs17173202  150916125  rs6464148  0.764
7 154577582  rs1529082  154578004  rs7800026  0.828
7 157768381  rs10237246  157774945  rs1597900  0.829
7 157768381  rs10237246  157781757  rs4909173  0.699
7 157768381  rs10237246  157782256  rs7800966  0.253
7 157768381  rs10237246  157783490  rs6950401  0.858
7 157774945  rs1597900  157781757  rs4909173  0.672
7 157774945  rs1597900  157783490  rs6950401  0.704
7 157781757  rs4909173  157782256  rs7800966  0.388
7 157781757  rs4909173  157783490  rs6950401  0.825
7 157782256  rs7800966  157783490  rs6950401  0.368
7 157950730  rs1670365  157957951  rs1733133  0.860
7 157950730  rs1670365  157958216  rs1632730  0.878
7 157957951  rs1733133  157958216  rs1632730  0.980
8 413694  rs11774384  426230  rs17065022  0.237
8 2095060  rs17752483  2100948  rs6981174  0.830
8 2095060  rs17752483  2106025  rs11990285  0.214
8 2100948  rs6981174  2101199  rs17685416  0.218
8 2100948  rs6981174  2106025  rs11990285  0.244
8 2101199  rs17685416  2106025  rs11990285  0.480
8 2309171  rs17063040  2675472  rs724654  0.203
8 3114063  rs13263104  3115312  rs7008857  0.734
8 3430697  rs17323568  3467652  rs1158563  0.314
8 3575030  rs1383950  3575173  rs4345580  0.271
8 5000841  rs4495448  5001153  rs7818064  0.767
8 6092262  rs4997127  6123920  rs7827867  0.258
8 6116508  rs4466421  6123920  rs7827867  0.691
8 6549500  rs10108451  6557762  rs1365042  0.537
8 6549500  rs10108451  6572293  rs2911976  0.410
8 6549500  rs10108451  6573272  rs2980684  0.404
8 6549500  rs10108451  6573287  rs2980683  0.397
8 6549500  rs10108451  6587757  rs2928576  0.403
8 6549500  rs10108451  6595480  rs2936507  0.262
8 6549500  rs10108451  6597571  rs2928579  0.306
8 6549500  rs10108451  6603381  rs2911970  0.262
| Chromosome | SNP1       | SNP2       | SNP3       | r2       |
|------------|------------|------------|------------|----------|
| 8          | 6557762    | rs1365042  | 6572293    | 0.836    |
| 8          | 6557762    | rs1365042  | 6573272    | 0.834    |
| 8          | 6557762    | rs1365042  | 6573287    | 0.843    |
| 8          | 6557762    | rs1365042  | 6587757    | 0.796    |
| 8          | 6557762    | rs1365042  | 6595480    | 0.554    |
| 8          | 6557762    | rs1365042  | 6597571    | 0.615    |
| 8          | 6557762    | rs1365042  | 6603381    | 0.576    |
| 8          | 6557762    | rs1365042  | 6603545    | 0.517    |
| 8          | 6572293    | rs2911976  | 6573272    | 0.979    |
| 8          | 6572293    | rs2911976  | 6573287    | 0.968    |
| 8          | 6572293    | rs2911976  | 6587757    | 0.898    |
| 8          | 6572293    | rs2911976  | 6595480    | 0.616    |
| 8          | 6572293    | rs2911976  | 6597571    | 0.686    |
| 8          | 6572293    | rs2911976  | 6603381    | 0.648    |
| 8          | 6572293    | rs2911976  | 6603545    | 0.647    |
| 8          | 6573272    | rs2980684  | 6573287    | 0.989    |
| 8          | 6573272    | rs2980684  | 6587757    | 0.897    |
| 8          | 6573272    | rs2980684  | 6595480    | 0.616    |
| 8          | 6573272    | rs2980684  | 6597571    | 0.689    |
| 8          | 6573272    | rs2980684  | 6603381    | 0.652    |
| 8          | 6573272    | rs2980684  | 6603545    | 0.654    |
| 8          | 6573272    | rs2980683  | 6595480    | 0.621    |
| 8          | 6573272    | rs2980683  | 6597571    | 0.693    |
| 8          | 6573272    | rs2980683  | 6603381    | 0.652    |
| 8          | 6573272    | rs2980683  | 6603545    | 0.657    |
| 8          | 6573272    | rs2980683  | 6595480    | 0.689    |
| 8          | 6573272    | rs2980683  | 6597571    | 0.772    |
| 8          | 6573272    | rs2980683  | 6603381    | 0.731    |
| 8          | 6573272    | rs2980683  | 6603545    | 0.714    |
| 8          | 6595480    | rs2936507  | 6595480    | 0.817    |
| 8          | 6595480    | rs2936507  | 6603381    | 0.763    |
| 8          | 6595480    | rs2936507  | 6603545    | 0.755    |
| 8          | 6597571    | rs2928579  | 6603381    | 0.859    |
| 8          | 6597571    | rs2928579  | 6603545    | 0.903    |
| 8          | 6603381    | rs2911970  | 6603545    | 1.000    |
| 8          | 8808383    | rs403245   | 8808812    | 0.879    |
| 8          | 8912648    | rs13250919 | 8915922    | 0.909    |
| 8          | 8912648    | rs13250919 | 8950115    | 0.321    |
| 8          | 8915922    | rs6989707  | 8950115    | 0.307    |
| 8          | 10657436   | rs17152302 | 10691571   | 0.926    |
| 8          | 11330445   | rs7018402  | 11336016   | 0.974    |
| 8          | 14431172   | rs1461859  | 14519569   | 0.293    |
| 8          | 14517871   | rs4831619  | 14549919   | 0.874    |
| Chromosome | SNP1 | SNP2 | SNP3 | SNP4 | p-value  |
|------------|------|------|------|------|----------|
| 8          | 14731549 | rs12681897 | 14763659 | rs4602887 | 0.409    |
| 8          | 15995933 | rs10096072 | 16198679 | rs4831814 | 0.208    |
| 8          | 16165538 | rs2163120  | 16198679 | rs4831814 | 0.817    |
| 8          | 16165538 | rs2163120  | 16592499 | rs1368538 | 0.248    |
| 8          | 16165538 | rs2163120  | 16649761 | rs1620255 | 0.272    |
| 8          | 16198679 | rs4831814  | 16649761 | rs1620255 | 0.229    |
| 8          | 16492644 | rs1094542  | 16557658 | rs17590021 | 0.256    |
| 8          | 16561402 | rs2163120  | 16592499 | rs1368538 | 0.936    |
| 8          | 16592499 | rs1368538  | 16649761 | rs1620255 | 0.226    |
| 8          | 16801933 | rs2410441  | 16803309 | rs823580  | 0.423    |
| 8          | 17551579 | rs7845057  | 19234037 | rs7845057  | 0.325    |
| 8          | 17551579 | rs7845057  | 19257352 | rs17128267 | 1.000    |
| 8          | 17551579 | rs7845057  | 19260902 | rs10503654 | 0.389    |
| 8          | 17595342 | rs17128267 | 19257352 | rs17128267 | 0.325    |
| 8          | 17595342 | rs17128267 | 19260902 | rs10503654 | 0.389    |
| 8          | 19234037 | rs7845057  | 19257352 | rs17128267 | 0.325    |
| 8          | 19234037 | rs7845057  | 19260902 | rs10503654 | 0.312    |
| 8          | 19257352 | rs17128267 | 19257994 | rs17128272 | 1.000    |
| 8          | 19257352 | rs17128267 | 19260902 | rs10503654 | 0.389    |
| 8          | 19257994 | rs17128272 | 19260902 | rs10503654 | 0.389    |
| 8          | 19630705 | rs17091182 | 19630860 | rs17091190 | 0.986    |
| 8          | 24424830 | rs17052096 | 24437265 | rs12546913 | 0.226    |
| 8          | 24566691 | rs1009022  | 24785810 | rs7844382  | 0.276    |
| 8          | 27645946 | rs210776   | 27680859 | rs10091671 | 0.700    |
| 8          | 27645946 | rs210776   | 27706347 | rs4732754  | 0.351    |
| 8          | 27656369 | rs6987111  | 27660469 | rs6989156  | 0.865    |
| 8          | 27656369 | rs6987111  | 27668810 | rs6989497  | 1.000    |
| 8          | 27656369 | rs6987111  | 27694316 | rs1460224  | 0.376    |
| 8          | 27656369 | rs6987111  | 27725167 | rs4732757  | 0.347    |
| 8          | 27656369 | rs6987111  | 27729323 | rs17057911 | 0.326    |
| 8          | 27656369 | rs6987111  | 27729539 | rs17057923 | 0.367    |
| 8          | 27660469 | rs6989156  | 27668810 | rs6989497  | 0.865    |
| 8          | 27660469 | rs6989156  | 27694316 | rs1460224  | 0.494    |
| 8          | 27660469 | rs6989156  | 27725167 | rs4732757  | 0.484    |
| 8          | 27660469 | rs6989156  | 27729323 | rs17057911 | 0.422    |
| 8          | 27660469 | rs6989156  | 27729539 | rs17057923 | 0.483    |
| 8          | 27668810 | rs6989497  | 27694316 | rs1460224  | 0.376    |
| 8          | 27668810 | rs6989497  | 27725167 | rs4732757  | 0.347    |
| 8          | 27668810 | rs6989497  | 27729323 | rs17057911 | 0.326    |
| 8          | 27668810 | rs6989497  | 27729539 | rs17057923 | 0.367    |
| 8          | 27680859 | rs10091671 | 27706347 | rs4732754  | 0.220    |
| 8          | 27680859 | rs10091671 | 27772520 | rs7824383  | 0.456    |
| 8          | 27680859 | rs10091671 | 27787698 | rs6558023  | 0.266    |
| Chromosome | SNP1   | SNP2   | SNP3   | R2    |
|------------|--------|--------|--------|-------|
| 8          | 27694316 | rs1460224 | 27725167 | rs4732757 | 0.964 |
| 8          | 27694316 | rs1460224 | 27729323 | rs17057911 | 0.924 |
| 8          | 27694316 | rs1460224 | 27729539 | rs17057923 | 0.981 |
| 8          | 27725167 | rs4732757 | 27729323 | rs17057911 | 0.932 |
| 8          | 27725167 | rs4732757 | 27729539 | rs17057923 | 0.982 |
| 8          | 27729323 | rs17057911 | 27729539 | rs17057923 | 0.946 |
| 8          | 27772520 | rs7824383 | 27787698 | rs6558023  | 0.233 |
| 8          | 29142862 | rs719926  | 29152772 | rs6558102  | 0.546 |
| 8          | 30239111 | rs2938217 | 30845258 | rs323369    | 0.264 |
| 8          | 30239111 | rs2938217 | 30850713 | rs323375    | 0.271 |
| 8          | 31113009 | rs2737334 | 31133012 | rs2737339   | 0.820 |
| 8          | 31264379 | rs4733239 | 31266000 | rs7005168   | 1.000 |
| 8          | 31264379 | rs4733239 | 31266118 | rs6980510   | 0.719 |
| 8          | 31266000 | rs7005168 | 31266118 | rs6980510   | 1.000 |
| 8          | 32050583 | rs10503896| 32057445 | rs1947734   | 0.539 |
| 8          | 32256855 | rs16879099| 32256902 | rs16879101  | 1.000 |
| 8          | 34451364 | rs10088476| 34561583 | rs7357540   | 0.535 |
| 8          | 35276445 | rs2737334 | 31133012 | rs2737339   | 0.820 |
| 8          | 35463388 | rs7001739 | 35475675 | rs10090689  | 0.874 |
| 8          | 35463388 | rs7001739 | 35476016 | rs4739412   | 0.790 |
| 8          | 35463388 | rs7001739 | 35523949 | rs12544168  | 0.799 |
| 8          | 35463388 | rs7001739 | 35531300 | rs6989128   | 0.466 |
| 8          | 35463388 | rs7001739 | 35534272 | rs983273    | 0.439 |
| 8          | 35463388 | rs7001739 | 35541296 | rs997084    | 0.424 |
| 8          | 35475675 | rs10090689| 35476016 | rs4739412   | 0.927 |
| 8          | 35475675 | rs10090689| 35523949 | rs12544168  | 0.794 |
| 8          | 35475675 | rs10090689| 35531300 | rs6989128   | 0.606 |
| 8          | 35475675 | rs10090689| 35534272 | rs983273    | 0.578 |
| 8          | 35475675 | rs10090689| 35541296 | rs997084    | 0.563 |
| 8          | 35476016 | rs4739412 | 35523949 | rs12544168  | 0.772 |
| 8          | 35476016 | rs4739412 | 35531300 | rs6989128   | 0.587 |
| 8          | 35476016 | rs4739412 | 35534272 | rs983273    | 0.556 |
| 8          | 35476016 | rs4739412 | 35541296 | rs997084    | 0.539 |
| 8          | 35523949 | rs12544168| 35531300 | rs6989128   | 0.559 |
| 8          | 35523949 | rs12544168| 35534272 | rs983273    | 0.526 |
| 8          | 35523949 | rs12544168| 35541296 | rs997084    | 0.509 |
| 8          | 35531300 | rs6989128 | 35534272 | rs983273    | 0.973 |
| 8          | 35531300 | rs6989128 | 35541296 | rs997084    | 0.959 |
| 8          | 35534272 | rs983273  | 35541296 | rs997084    | 0.986 |
| 8          | 36776986 | rs10090112| 36780844 | rs12543523  | 0.608 |
| 8          | 39613659 | rs1376720 | 39639013 | rs9643868   | 0.317 |
| 8          | 39613659 | rs1376720 | 39640576 | rs6988389   | 0.317 |
| Chromosome | Position | SNP A | Position | SNP B | Distance | R² |
|------------|----------|-------|----------|-------|----------|----|
| 8          | 39639013 | rs9643868 | 39640576 | rs6988389 | 1.000     |
| 8          | 43198024 | rs9643892 | 43347778 | rs899853  | 0.516     |
| 8          | 43198024 | rs9643892 | 43618302 | rs7460686 | 0.311     |
| 8          | 43347778 | rs899853  | 43618302 | rs7460686 | 0.654     |
| 8          | 43449355 | rs4736856 | 43539989 | rs7463484 | 0.792     |
| 8          | 49758694 | rs900237  | 49880037 | rs1010823 | 0.501     |
| 8          | 50221260 | rs10081464| 50255830 | rs1509086 | 0.403     |
| 8          | 50221260 | rs10081464| 50270223 | rs4873330 | 0.422     |
| 8          | 50255830 | rs1509086 | 50257567 | rs17527   | 1.000     |
| 8          | 50255830 | rs1509086 | 50270223 | rs4873330 | 0.926     |
| 8          | 50257567 | rs17527   | 50270223 | rs4873330 | 0.926     |
| 8          | 53304268 | rs16917539| 53338179 | rs7461434 | 0.410     |
| 8          | 54065270 | rs12541632| 54163602 | rs4873713 | 0.264     |
| 8          | 54065270 | rs12541632| 54166313 | rs2376432 | 0.264     |
| 8          | 54065270 | rs12541632| 54169597 | rs4873722 | 0.264     |
| 8          | 54065270 | rs12541632| 54191589 | rs4873729 | 0.298     |
| 8          | 54065270 | rs12541632| 54201931 | rs2717637 | 0.271     |
| 8          | 54071219 | rs360973  | 5408723  | rs4873692 | 0.871     |
| 8          | 54071219 | rs360973  | 54136602 | rs4873713 | 0.513     |
| 8          | 54071219 | rs360973  | 54166313 | rs2376432 | 0.513     |
| 8          | 54071219 | rs360973  | 54169597 | rs4873722 | 0.513     |
| 8          | 54071219 | rs360973  | 54191589 | rs4873729 | 0.459     |
| 8          | 54071219 | rs360973  | 54201931 | rs2717637 | 0.575     |
| 8          | 54071219 | rs360973  | 54269163 | rs7007275 | 0.251     |
| 8          | 54108723 | rs4873692 | 54163602 | rs4873713 | 0.537     |
| 8          | 54108723 | rs4873692 | 54166313 | rs2376432 | 0.537     |
| 8          | 54108723 | rs4873692 | 54169597 | rs4873722 | 0.537     |
| 8          | 54108723 | rs4873692 | 54191589 | rs4873729 | 0.483     |
| 8          | 54108723 | rs4873692 | 54201931 | rs2717637 | 0.613     |
| 8          | 54108723 | rs4873692 | 54269163 | rs7007275 | 0.254     |
| 8          | 54141127 | rs894915  | 54163602 | rs4873713 | 0.421     |
| 8          | 54141127 | rs894915  | 54166313 | rs2376432 | 0.421     |
| 8          | 54141127 | rs894915  | 54169597 | rs4873722 | 0.421     |
| 8          | 54141127 | rs894915  | 54191589 | rs4873729 | 0.395     |
| 8          | 54141127 | rs894915  | 54201931 | rs2717637 | 0.294     |
| 8          | 54163602 | rs4873713 | 54166313 | rs2376432 | 1.000     |
| 8          | 54163602 | rs4873713 | 54169597 | rs4873722 | 1.000     |
| 8          | 54163602 | rs4873713 | 54191589 | rs4873729 | 0.937     |
| 8          | 54163602 | rs4873713 | 54201931 | rs2717637 | 0.830     |
| 8          | 54166313 | rs2376432 | 54191589 | rs4873729 | 0.937     |
| 8          | 54166313 | rs2376432 | 54201931 | rs2717637 | 0.830     |
| 8          | 54169597 | rs4873722 | 54191589 | rs4873729 | 0.937     |
| Chromosome | Marker 1 | Marker 2 | Marker 3 | R^2 |
|------------|----------|----------|----------|-----|
| 8          | 54169597 | rs4873722 | rs2717637 | 0.830 |
| 8          | 54191589 | rs4873729 | rs2717637 | 0.886 |
| 8          | 56071878 | rs6991044 | rs4307317 | 0.978 |
| 8          | 57015415 | rs11985083 | rs16922464 | 0.523 |
| 8          | 57091969 | rs884422  | rs2668000 | 0.705 |
| 8          | 58198812 | rs1442125 | rs16921695 | 0.335 |
| 8          | 58198812 | rs1442125 | rs10958532 | 0.330 |
| 8          | 58198812 | rs1442125 | rs6994658  | 0.330 |
| 8          | 58198812 | rs1442125 | rs17194487 | 0.556 |
| 8          | 58198812 | rs1442125 | rs6982990  | 0.409 |
| 8          | 58198812 | rs1442125 | rs17804870 | 0.471 |
| 8          | 58198812 | rs1442125 | rs17805326 | 0.235 |
| 8          | 58220209 | rs16921695 | rs10958532 | 0.991 |
| 8          | 58220209 | rs16921695 | rs6994658  | 0.991 |
| 8          | 58220209 | rs16921695 | rs17194487 | 0.264 |
| 8          | 58220209 | rs16921695 | rs6982990  | 0.373 |
| 8          | 58244139 | rs10958532 | rs17194487 | 0.271 |
| 8          | 58244139 | rs10958532 | rs6982990  | 0.384 |
| 8          | 58244139 | rs10958532 | rs17804870 | 0.229 |
| 8          | 58246609 | rs6994658  | rs17194487 | 0.271 |
| 8          | 58246609 | rs6994658  | rs6982990  | 0.384 |
| 8          | 58246609 | rs6994658  | rs17804870 | 0.229 |
| 8          | 58246609 | rs6994658  | rs17805110 | 0.295 |
| 8          | 58246609 | rs6994658  | rs17805326 | 0.542 |
| 8          | 58246609 | rs6994658  | rs6982990  | 0.384 |
| 8          | 58267466 | rs17194487 | rs6982990  | 0.561 |
| 8          | 58267466 | rs17194487 | rs17804870 | 0.910 |
| 8          | 58267466 | rs17194487 | rs17805110 | 0.712 |
| 8          | 58267466 | rs17194487 | rs17805326 | 0.542 |
| 8          | 58267466 | rs17194487 | rs17805332 | 0.542 |
| 8          | 58277829 | rs6982990  | rs17804870 | 0.486 |
| 8          | 58277829 | rs6982990  | rs17805110 | 0.548 |
| 8          | 58277829 | rs6982990  | rs17805326 | 0.448 |
| 8          | 58277829 | rs6982990  | rs17805332 | 0.447 |
| 8          | 58320625 | rs17804870 | rs17805110 | 0.718 |
| 8          | 58320625 | rs17804870 | rs17805326 | 0.551 |
| 8          | 58320625 | rs17804870 | rs17805332 | 0.551 |
| 8          | 58323993 | rs17805110 | rs17805326 | 0.558 |
| 8          | 58323993 | rs17805110 | rs17805332 | 0.557 |
| 8          | 58332087 | rs17805326 | rs17805332 | 1.000 |
| Chromosome | SNP1 | Position1 | SNP2 | Position2 | SNP3 | Position3 | p-value |
|------------|------|-----------|------|-----------|------|-----------|---------|
| 8          | 59516088 | rs13277801 | 59532713 | rs6985620 | 0.924 |
| 8          | 60964005 | rs4607595  | 61009822 | rs6985045 | 0.675 |
| 8          | 62991951 | rs7840865  | 62994726 | rs1864731 | 0.748 |
| 8          | 62991951 | rs7840865  | 6300615  | rs7842255 | 0.746 |
| 8          | 62991951 | rs7840865  | 63084209 | rs16928166 | 0.281 |
| 8          | 62991951 | rs7840865  | 63113409 | rs16928311 | 0.269 |
| 8          | 62991951 | rs7840865  | 63116802 | rs16928335 | 0.269 |
| 8          | 62991951 | rs7840865  | 63170923 | rs6990341  | 0.227 |
| 8          | 62994726 | rs1864731  | 6300615  | rs7842255 | 0.972 |
| 8          | 62994726 | rs1864731  | 63084209 | rs16928166 | 0.271 |
| 8          | 62994726 | rs1864731  | 63113409 | rs16928311 | 0.255 |
| 8          | 62994726 | rs1864731  | 63116802 | rs6990341  | 0.329 |
| 8          | 6300615  | rs7842255  | 63084209 | rs16928166 | 0.281 |
| 8          | 6300615  | rs7842255  | 63113409 | rs16928311 | 0.265 |
| 8          | 6300615  | rs7842255  | 63116802 | rs16928335 | 0.265 |
| 8          | 6300615  | rs7842255  | 63170923 | rs6990341  | 0.337 |
| 8          | 63084209 | rs16928166 | 63113409 | rs16928311 | 0.954 |
| 8          | 63084209 | rs16928166 | 63116802 | rs16928335 | 0.954 |
| 8          | 63113409 | rs16928311 | 63116802 | rs16928335 | 1.000 |
| 8          | 66626227 | rs11777025 | 66632480 | rs11781358 | 0.794 |
| 8          | 66626227 | rs11777025 | 66677508 | rs14213   | 0.341 |
| 8          | 66626227 | rs11777025 | 66678337 | rs1053088 | 0.341 |
| 8          | 66632480 | rs11781358 | 66677508 | rs14213   | 0.301 |
| 8          | 66632480 | rs11781358 | 66678337 | rs1053088 | 0.301 |
| 8          | 66677508 | rs14213   | 66678337 | rs1053088 | 1.000 |
| 8          | 67214949 | rs7831234  | 67229334 | rs9694082 | 0.709 |
| 8          | 67214949 | rs7831234  | 67231942 | rs7822243 | 0.709 |
| 8          | 67214949 | rs7831234  | 67245286 | rs6999100 | 0.563 |
| 8          | 67229334 | rs9694082  | 67231942 | rs7822243 | 1.000 |
| 8          | 67229334 | rs9694082  | 67245286 | rs6999100 | 0.804 |
| 8          | 67231942 | rs7822243 | 67245286 | rs6999100 | 0.799 |
| 8          | 68754736 | rs2114051  | 68762513 | rs6472330 | 0.578 |
| 8          | 68754736 | rs2114051  | 68770846 | rs2380427 | 0.551 |
| 8          | 68754736 | rs2114051  | 68777945 | rs2553651 | 0.773 |
| 8          | 68754736 | rs2114051  | 68779823 | rs2217028 | 0.528 |
| 8          | 68762513 | rs6472330  | 68770846 | rs2380427 | 0.941 |
| 8          | 68762513 | rs6472330  | 68777945 | rs2553651 | 0.451 |
| 8          | 68762513 | rs6472330  | 68779823 | rs2217028 | 0.932 |
| 8          | 68770846 | rs2380427 | 68777945 | rs2553651 | 0.455 |
| 8          | 68770846 | rs2380427 | 68779823 | rs2217028 | 0.974 |
| 8          | 68777945 | rs2553651 | 68779823 | rs2217028 | 0.460 |
| 8          | 71208965 | rs4074358  | 71251571 | rs10504469 | 1.000 |
| 8          | 73210302 | rs16938055 | 73215633 | rs10504532 | 0.486 |
| Chromosome | Position | rsID | Position | rsID | Distance | P-value |
|------------|----------|------|----------|------|----------|---------|
| 8          | 73210302 | rs16938055 | 73230236 | rs4363243 | 0.301 |
| 8          | 73705254 | rs13253101 | 73742670 | rs2246785 | 0.288 |
| 8          | 73742670 | rs2246785 | 74189026 | rs11992054 | 0.244 |
| 8          | 75037912 | rs12541216 | 75038119 | rs10504552 | 1.000 |
| 8          | 75189439 | rs6987422 | 75199459 | rs41421651 | 0.356 |
| 8          | 75221845 | rs2912302 | 75238681 | rs1875064 | 1.000 |
| 8          | 75221845 | rs2912302 | 75247824 | rs11992054 | 0.244 |
| 8          | 75238861 | rs1875064 | 75251256 | rs2977056 | 0.663 |
| 8          | 75247824 | rs2977056 | 75251256 | rs2936680 | 0.760 |
| 8          | 80381470 | rs2169149 | 80389955 | rs1460162 | 0.644 |
| 8          | 80381470 | rs2169149 | 80390003 | rs1460163 | 1.000 |
| 8          | 80389955 | rs1460162 | 80390003 | rs1460163 | 0.644 |
| 8          | 84276448 | rs7829784 | 84277905 | rs2090880 | 0.859 |
| 8          | 84276448 | rs7829784 | 84675888 | rs7007038 | 0.306 |
| 8          | 84277905 | rs2090880 | 84675888 | rs7007038 | 0.270 |
| 8          | 87764021 | rs7842410 | 87835529 | rs1458132 | 0.480 |
| 8          | 87953076 | rs6465819 | 87974367 | rs10955093 | 0.835 |
| 8          | 88872232 | rs7840637 | 88880870 | rs7824648 | 0.278 |
| 8          | 96252193 | rs297571 | 96254526 | rs17668689 | 0.237 |
| 8          | 96664912 | rs3104964 | 96714775 | rs6471550 | 0.371 |
| 8          | 98348127 | rs2053480 | 98351602 | rs1835744 | 0.294 |
| 8          | 98691409 | rs2512423 | 98691491 | rs2512424 | 0.983 |
| 8          | 103635402 | rs998200 | 103636875 | rs2436896 | 0.922 |
| 8          | 103635402 | rs998200 | 103638274 | rs2248178 | 0.824 |
| 8          | 103635402 | rs998200 | 103638355 | rs2248172 | 0.824 |
| 8          | 103636875 | rs2436896 | 103638355 | rs2248172 | 0.892 |
| 8          | 103636875 | rs2436896 | 103638355 | rs2248172 | 0.892 |
| 8          | 103638274 | rs2248178 | 103638355 | rs2248172 | 1.000 |
| 8          | 106062241 | rs11784380 | 106121519 | rs3101274 | 0.454 |
| 8          | 109754362 | rs904174 | 109756487 | rs904175 | 0.818 |
| 8          | 109754362 | rs904174 | 109769766 | rs3019417 | 0.281 |
| 8          | 109754362 | rs904174 | 109775285 | rs4735075 | 0.811 |
| 8          | 109756487 | rs904175 | 109769766 | rs3019417 | 0.423 |
| 8          | 109769766 | rs904175 | 109775285 | rs4735075 | 0.961 |
| 8          | 110651938 | rs2703388 | 110663324 | rs2844235 | 0.794 |
| 8          | 111243309 | rs13272142 | 111253247 | rs2350728 | 0.212 |
| 8          | 111988767 | rs11785408 | 112011935 | rs7388152 | 0.259 |
| Chromosome | Start Position | End Position | rsID | MARA | Beta | P Value |
|------------|----------------|--------------|------|------|------|---------|
| 8          | 111988767      | 112260608    | rs11785408 | rs1427181 | 0.206 |
| 8          | 112812615      | 112845541    | rs9297452  | rs6469379  | 0.944 |
| 8          | 112812615      | 112898378    | rs9297452  | rs1397367  | 0.843 |
| 8          | 112845541      | 112898378    | rs6469379  | rs1397367  | 0.815 |
| 8          | 116521516      | 116666214    | rs3808409  | rs2272619  | 0.513 |
| 8          | 117576668      | 117579310    | rs6997203  | rs11775732 | 0.958 |
| 8          | 118740648      | 118770631    | rs4604472  | rs1508566  | 0.580 |
| 8          | 122585726      | 122606127    | rs1542683  | rs2385922  | 0.767 |
| 8          | 123498651      | 123513831    | rs11781643 | rs6993726  | 0.961 |
| 8          | 124710187      | 124715203    | rs16898637 | rs12545556 | 0.513 |
| 8          | 124719608      | 124722976    | rs11777302 | rs13261949 | 0.552 |
| 8          | 124719608      | 124735468    | rs11777302 | rs6470170  | 0.469 |
| 8          | 124722976      | 124735468    | rs13261949 | rs6470170  | 0.287 |
| 8          | 124735468      | 124736503    | rs4374971  | rs13261949 | 1.000 |
| 8          | 125337303      | 125366053    | rs16899480 | rs17296667 | 0.453 |
| 8          | 128051271      | 128055648    | rs4871004  | rs2392683  | 0.834 |
| 8          | 128051271      | 128095310    | rs4871004  | rs710885   | 0.776 |
| 8          | 128055648      | 128095310    | rs2392683  | rs710885   | 0.682 |
| 8          | 128902659      | 128909458    | rs7829132  | rs4733792  | 0.983 |
| 8          | 128902659      | 128913644    | rs7829132  | rs4733797  | 0.811 |
| 8          | 128902659      | 128926090    | rs7829132  | rs4332094  | 0.243 |
| 8          | 128902659      | 128927871    | rs7829132  | rs13259137 | 0.493 |
| 8          | 128909458      | 128913644    | rs4733792  | rs4733797  | 0.810 |
| 8          | 128909458      | 128926090    | rs4733792  | rs4332094  | 0.249 |
| 8          | 128909458      | 128927871    | rs4733792  | rs13259137 | 0.498 |
| 8          | 128913644      | 128926090    | rs4733797  | rs4332094  | 0.227 |
| 8          | 128913644      | 128927871    | rs4733797  | rs13259137 | 0.617 |
| 8          | 128926090      | 128927871    | rs4733797  | rs13259137 | 0.339 |
| 8          | 130362958      | 130368674    | rs4733695  | rs4480081  | 0.686 |
| 8          | 131739875      | 131814746    | rs17312795 | rs1876882  | 0.904 |
| 8          | 134609051      | 134617753    | rs2978015  | rs2978023  | 0.542 |
| 8          | 136956284      | 136994256    | rs4130250  | rs6997347  | 0.443 |
| 8          | 137082629      | 137105435    | rs1868368  | rs6577701  | 0.253 |
| 8          | 137082629      | 137113539    | rs1868368  | rs13266231 | 0.269 |
| 8          | 137092988      | 137094522    | rs10505642 | rs6994909  | 0.880 |
| 8          | 137092988      | 137094596    | rs10505642 | rs4909537  | 0.981 |
| 8          | 137092988      | 137105435    | rs10505642 | rs6577701  | 0.533 |
| 8          | 137092988      | 137113539    | rs10505642 | rs13266231 | 0.487 |
| Chromosome | Position         | SNP A | Position         | SNP B | SNP C | R²  |
|------------|------------------|-------|------------------|-------|-------|-----|
| 8          | 137094522        | rs6994909 | 137094596        | rs4909537 | rs6577701 | 0.897 |
| 8          | 137094522        | rs6994909 | 137105435        | rs6577701 | rs6577701 | 0.479 |
| 8          | 137094596        | rs4909537 | 137105435        | rs6577701 | rs6577701 | 0.549 |
| 8          | 137094596        | rs4909537 | 137113539        | rs13266231 | rs13266231 | 0.487 |
| 8          | 137105435        | rs6577701 | 137113539        | rs13266231 | rs13266231 | 0.943 |
| 8          | 138673785        | rs28483233 | 138682350        | rs6577810 | rs6577810 | 0.622 |
| 8          | 138673785        | rs28483233 | 138684814        | rs4489355 | rs4489355 | 0.979 |
| 8          | 138682350        | rs6577810 | 138684814        | rs4489355 | rs4489355 | 0.979 |
| 8          | 138987482        | rs2705295 | 138988883        | rs2705291 | rs2705291 | 0.202 |
| 8          | 138987482        | rs2705295 | 139012095        | rs2705285 | rs2705285 | 0.202 |
| 8          | 139012095        | rs2705285 | 139034394        | rs2668129 | rs2668129 | 0.917 |
| 8          | 139940650        | rs12114311 | 139943056        | rs11166850 | rs11166850 | 0.389 |
| 8          | 140232633        | rs4075454 | 140237822        | rs11166882 | rs11166882 | 1.000 |
| 8          | 140232633        | rs4075454 | 140237822        | rs11166882 | rs11166882 | 1.000 |
| 8          | 140236061        | rs6577996 | 140272967        | rs9987138 | rs9987138 | 0.209 |
| 9          | 1061814          | rs7043337 | 1063114          | rs1876752 | rs1876752 | 0.923 |
| 9          | 1707031          | rs10962856 | 1707158          | rs10962859 | rs10962859 | 0.429 |
| 9          | 1707031          | rs10962856 | 1715917          | rs1904091 | rs1904091 | 0.872 |
| 9          | 1707158          | rs10962859 | 1715917          | rs1904091 | rs1904091 | 0.373 |
| 9          | 2333547          | rs2210398 | 2351176          | rs871786 | rs871786 | 0.807 |
| 9          | 4109707          | rs806051 | 4117906          | rs529420 | rs529420 | 0.340 |
| 9          | 4824394          | rs457287 | 4824597          | rs4611130 | rs4611130 | 0.868 |
| 9          | 6243571          | rs10975519 | 6245319          | rs7047921 | rs7047921 | 0.979 |
| 9          | 6258204          | rs2039386 | 6421946          | rs10758790 | rs10758790 | 0.518 |
| 9          | 6397799          | rs10758783 | 6421946          | rs10758790 | rs10758790 | 0.244 |
| 9          | 6964900          | rs1570507 | 6967233          | rs10491778 | rs10491778 | 0.975 |
| 9          | 6964900          | rs1570507 | 6968691          | rs1323410 | rs1323410 | 0.964 |
| 9          | 6964900          | rs1570507 | 7041826          | rs7019027 | rs7019027 | 0.264 |
| 9          | 6967233          | rs10491778 | 6968691          | rs1323410 | rs1323410 | 0.988 |
| 9          | 6967233          | rs10491778 | 7041826          | rs7019027 | rs7019027 | 0.250 |
| 9          | 6968691          | rs1323410 | 7041826          | rs7019027 | rs7019027 | 0.243 |
| 9          | 7041826          | rs7019027 | 7062065          | rs4740869 | rs4740869 | 0.850 |
| 9          | 8279350          | rs10976918 | 8322307          | rs16927547 | rs16927547 | 0.224 |
| 9          | 8568551          | rs7023351 | 8625791          | rs1512380 | rs1512380 | 0.223 |
| 9          | 8568551          | rs7023351 | 8636183          | rs16928238 | rs16928238 | 0.365 |
| 9          | 8594583          | rs17573565 | 8625791          | rs1512380 | rs1512380 | 0.312 |
| 9          | 8594583          | rs17573565 | 8636183          | rs16928238 | rs16928238 | 0.417 |
| 9          | 8625791          | rs1512380 | 8636183          | rs16928238 | rs16928238 | 0.713 |
| rs ID       | Description          | Value   | Value   | Rs ID         | Value   | Value   | Value   |
|------------|----------------------|---------|---------|---------------|---------|---------|---------|
| rs10759011 |                      | 0.942   | 0.991   | rs10739174    | 0.346   |         |         |
| rs10959841 |                      | 1.145   | 1.148   | rs10491950    | 0.441   |         |         |
| rs7847144  |                      | 1.570   | 1.570   | rs6474954     | 0.915   |         |         |
| rs7847144  |                      | 1.577   | 1.577   | rs4146291     | 0.599   |         |         |
| rs7847144  |                      | 1.594   | 1.594   | rs10810502    | 0.458   |         |         |
| rs6474954  |                      | 1.577   | 1.577   | rs4146291     | 0.521   |         |         |
| rs6474954  |                      | 1.594   | 1.594   | rs10810502    | 0.393   |         |         |
| rs4146291  |                      | 1.594   | 1.594   | rs10810502    | 0.737   |         |         |
| rs770193   |                      | 1.599   | 1.599   | rs1887665     | 0.323   |         |         |
| rs16934205 |                      | 1.618   | 1.618   | rs12005826    | 0.864   |         |         |
| rs10756757 |                      | 1.655   | 1.655   | rs10756762    | 0.646   |         |         |
| rs10756757 |                      | 1.663   | 1.663   | rs10810581    | 0.521   |         |         |
| rs10756757 |                      | 1.663   | 1.663   | rs10810581    | 0.484   |         |         |
| rs1888207  |                      | 1.668   | 1.668   | rs10738446    | 0.982   |         |         |
| rs1888207  |                      | 1.669   | 1.669   | rs2297176     | 0.958   |         |         |
| rs1888207  |                      | 1.679   | 1.679   | rs2254330     | 0.232   |         |         |
| rs10738446 |                      | 1.669   | 1.669   | rs2297176     | 0.956   |         |         |
| rs10738446 |                      | 1.679   | 1.679   | rs2254330     | 0.228   |         |         |
| rs10738446 |                      | 1.679   | 1.679   | rs2254330     | 0.250   |         |         |
| rs1856132  |                      | 1.672   | 1.672   | rs12351269    | 0.585   |         |         |
| rs10963347 |                      | 1.792   | 1.794   | rs10963360    | 0.515   |         |         |
| rs10963347 |                      | 1.795   | 1.795   | rs16936157    | 0.381   |         |         |
| rs10963360 |                      | 1.795   | 1.795   | rs16936157    | 0.640   |         |         |
| rs10156461 |                      | 1.880   | 1.885   | rs7862903     | 0.281   |         |         |
| rs7862903  |                      | 1.885   | 1.940   | rs7046518     | 0.203   |         |         |
| rs647549   |                      | 2.269   | 2.272   | rs555828      | 0.695   |         |         |
| rs10114899 |                      | 2.499   | 2.499   | rs4507853     | 0.652   |         |         |
| rs7038072  |                      | 2.531   | 2.533   | rs10966868    | 0.813   |         |         |
| rs606342   |                      | 2.718   | 2.719   | rs638203      | 0.884   |         |         |
| rs10969315 |                      | 2.965   | 2.966   | rs10969317    | 0.916   |         |         |
| rs10758026 |                      | 3.114   | 3.115   | rs1414025     | 0.789   |         |         |
| rs10970497 |                      | 3.170   | 3.170   | rs12550877    | 0.979   |         |         |
| rs10813950 |                      | 3.311   | 3.311   | rs10813951    | 0.635   |         |         |
| rs10813950 |                      | 3.311   | 3.314   | rs10813957    | 0.635   |         |         |
| rs10813951 |                      | 3.311   | 3.314   | rs10813957    | 1.000   |         |         |
| rs10758392 |                      | 3.672   | 3.672   | rs7043503     | 0.520   |         |         |
| rs10758392 |                      | 3.672   | 3.672   | rs7043808     | 0.520   |         |         |
| rs10758392 |                      | 3.672   | 3.672   | rs10738976    | 0.474   |         |         |
| rs7043503  |                      | 3.672   | 3.672   | rs7043808     | 1.000   |         |         |
| rs7043503  |                      | 3.672   | 3.672   | rs10738976    | 0.955   |         |         |
| rs7043808  |                      | 3.672   | 3.672   | rs10738976    | 0.955   |         |         |
| rs10814496 |                      | 3.696   | 3.697   | rs4880048     | 0.465   |         |         |
| rs2585667  |                      | 3.819   | 3.819   | rs2585668     | 0.991   |         |         |
| rs7439752  |                      | 7.162   | 7.163   | rs10521434    | 0.942   |         |         |
| Locus     | SNP       | Locus     | SNP       | r2   |
|-----------|-----------|-----------|-----------|------|
| 9         | 72984279  | rs7469513 | 72984412  | rs10868968 | 0.991 |
| 9         | 72984279  | rs7469513 | 72984608  | rs11142716 | 0.991 |
| 9         | 72984279  | rs7469513 | 72997021  | rs2174306  | 0.958 |
| 9         | 72984279  | rs7469513 | 73001077  | rs10746864 | 0.974 |
| 9         | 72984279  | rs7469513 | 73014929  | rs2174306  | 0.958 |
| 9         | 72984279  | rs7469513 | 73017626  | rs1354458  | 0.596 |
| 9         | 72984279  | rs7469513 | 73022306  | rs12346443 | 0.911 |
| 9         | 72984279  | rs7469513 | 73059780  | rs11142756 | 0.856 |
| 9         | 72984412  | rs10868968 | 72984608  | rs11142716 | 1.000 |
| 9         | 72984412  | rs10868968 | 72997021  | rs6560186  | 0.983 |
| 9         | 72984412  | rs10868968 | 73001077  | rs12346443 | 0.919 |
| 9         | 72984412  | rs10868968 | 73014929  | rs2174306  | 0.969 |
| 9         | 72984412  | rs10868968 | 73017626  | rs1354458  | 0.601 |
| 9         | 72984412  | rs10868968 | 73022306  | rs12346443 | 0.911 |
| 9         | 72984412  | rs10868968 | 73059780  | rs11142756 | 0.865 |
| 9         | 72984608  | rs11142716 | 72997021  | rs6560186  | 0.982 |
| 9         | 72984608  | rs11142716 | 73001077  | rs10746864 | 0.982 |
| 9         | 72984608  | rs11142716 | 73014929  | rs2174306  | 0.968 |
| 9         | 72984608  | rs11142716 | 73017626  | rs1354458  | 0.602 |
| 9         | 72984608  | rs11142716 | 73022306  | rs12346443 | 0.918 |
| 9         | 72984608  | rs11142716 | 73059780  | rs11142756 | 0.864 |
| 9         | 72997021  | rs6560186  | 73001077  | rs10746864 | 1.000 |
| 9         | 72997021  | rs6560186  | 73014929  | rs2174306  | 0.989 |
| 9         | 72997021  | rs6560186  | 73017626  | rs1354458  | 0.621 |
| 9         | 72997021  | rs6560186  | 73022306  | rs12346443 | 0.934 |
| 9         | 72997021  | rs6560186  | 73059780  | rs11142756 | 0.883 |
| 9         | 73001077  | rs10746864 | 73014929  | rs2174306  | 0.989 |
| 9         | 73001077  | rs10746864 | 73017626  | rs1354458  | 0.621 |
| 9         | 73001077  | rs10746864 | 73022306  | rs12346443 | 0.934 |
| 9         | 73001077  | rs10746864 | 73059780  | rs11142756 | 0.883 |
| 9         | 73014929  | rs2174306  | 73017626  | rs1354458  | 0.601 |
| 9         | 73014929  | rs2174306  | 73022306  | rs12346443 | 0.910 |
| 9         | 73014929  | rs2174306  | 73059780  | rs11142756 | 0.862 |
| 9         | 73017626  | rs1354458  | 73022306  | rs12346443 | 0.556 |
| 9         | 73017626  | rs1354458  | 73059780  | rs11142756 | 0.558 |
| 9         | 73022306  | rs12346443 | 73059780  | rs11142756 | 0.832 |
| 9         | 73518742  | rs3780610  | 73569079  | rs12379790 | 0.424 |
| 9         | 74047938  | rs4130866  | 74073145  | rs13222479 | 0.287 |
| 9         | 77630293  | rs11144637 | 77646521  | rs7031123  | 0.556 |
| 9         | 78766008  | rs7852521  | 78766827  | rs7856464  | 0.321 |
| 9         | 81236271  | rs13298282  | 81264935  | rs10491787  | 0.788 |
| 9         | 81236271  | rs13298282  | 81266285  | rs11138241  | 0.785 |
| 9         | 81236271  | rs13298282  | 81267705  | rs17427625  | 0.859 |
| 9         | 81236271  | rs13298282  | 81286014  | rs10491791  | 0.717 |
| 9 | 81264935 | rs10491787 | 81266285 | rs11138241 | 1.000 |
| 9 | 81264935 | rs10491787 | 81267705 | rs17427625 | 0.877 |
| 9 | 81264935 | rs10491787 | 81286014 | rs10491791 | 0.805 |
| 9 | 81264935 | rs10491787 | 81306157 | rs17082511 | 0.202 |
| 9 | 81266285 | rs11138241 | 81267705 | rs17427625 | 0.876 |
| 9 | 81266285 | rs11138241 | 81286014 | rs10491791 | 0.802 |
| 9 | 81267705 | rs17427625 | 81286014 | rs10491791 | 0.783 |
| 9 | 81286014 | rs10491791 | 81306157 | rs17082511 | 0.202 |
| 9 | 83444937 | rs947673 | 83452715 | rs4877221 | 0.836 |
| 9 | 84589743 | rs4877708 | 84590086 | rs4877709 | 0.445 |
| 9 | 85856918 | rs973460 | 85861585 | rs7033778 | 0.888 |
| 9 | 85856918 | rs973460 | 85863663 | rs1436932 | 0.888 |
| 9 | 85861585 | rs7033778 | 85863663 | rs1436932 | 1.000 |
| 9 | 86039924 | rs7026159 | 86062589 | rs7848051 | 0.774 |
| 9 | 86039924 | rs7026159 | 86095927 | rs6559779 | 0.248 |
| 9 | 86039924 | rs7026159 | 86099255 | rs885003 | 0.236 |
| 9 | 86039924 | rs7026159 | 86106730 | rs12342617 | 0.413 |
| 9 | 86059945 | rs1932649 | 86061696 | rs11140475 | 0.652 |
| 9 | 86062589 | rs7848051 | 86095927 | rs6559779 | 0.275 |
| 9 | 86062589 | rs7848051 | 86099255 | rs885003 | 0.255 |
| 9 | 86062589 | rs7848051 | 86106730 | rs12342617 | 0.547 |
| 9 | 86095927 | rs6559779 | 86099255 | rs885003 | 0.906 |
| 9 | 86095927 | rs6559779 | 86106730 | rs12342617 | 0.465 |
| 9 | 86099255 | rs885003 | 86106730 | rs12342617 | 0.521 |
| 9 | 86115568 | rs11140507 | 86115666 | rs10780660 | 0.943 |
| 9 | 86115568 | rs11140507 | 86116127 | rs10780661 | 0.872 |
| 9 | 86115568 | rs11140507 | 86116712 | rs11140508 | 0.706 |
| 9 | 86115666 | rs10780660 | 86116127 | rs10780661 | 0.928 |
| 9 | 86115666 | rs10780660 | 86116712 | rs11140508 | 0.750 |
| 9 | 86116127 | rs10780661 | 86116712 | rs11140508 | 0.716 |
| 9 | 86772647 | rs984430 | 86803143 | rs4877895 | 0.215 |
| 9 | 89082420 | rs927524 | 89122734 | rs6559978 | 0.307 |
| 9 | 89360808 | rs11141879 | 89361340 | rs7852573 | 1.000 |
| 9 | 91733701 | rs7025971 | 91766807 | rs10993331 | 0.277 |
| 9 | 92696806 | rs158690 | 92698773 | rs12344755 | 0.720 |
| 9 | 93315663 | rs7039956 | 93350488 | rs6479357 | 0.536 |
| 9 | 94040930 | rs471478 | 94099611 | rs710162 | 0.676 |
| 9 | 94040930 | rs471478 | 94191198 | rs7853859 | 0.556 |
| 9 | 94040930 | rs471478 | 94599326 | rs10992471 | 0.460 |
| 9 | 94099611 | rs710162 | 94191198 | rs7853859 | 0.819 |
| 9 | 94099611 | rs710162 | 94599326 | rs10992471 | 0.426 |
| 9 | 94191198 | rs7853859 | 94599326 | rs10992471 | 0.352 |
| 9 | 95125191 | rs3001450 | 95285108 | rs11791374 | 0.225 |
| 9 | 95125191 | rs3001450 | 95311188 | rs10821147 | 0.228 |
| Chromosome | SNP1   | SNP2   | SNP3   | p_value |
|------------|--------|--------|--------|---------|
| 9          | rs11791374 | 95311188 | rs10821147 | 0.928   |
| 9          | rs11791374 | 95391038 | rs10761238 | 0.617   |
| 9          | rs10821147 | 95391038 | rs10761238 | 0.684   |
| 9          | rs7033633  | 97026515 | rs356689  | 0.862   |
| 9          | rs4743091  | 97422771 | rs7854560 | 0.650   |
| 9          | rs4743271  | 97548530 | rs4743272 | 1.000   |
| 9          | rs1877431  | 99663198 | rs933501  | 0.381   |
| 9          | rs2052977  | 103061577 | rs12237965 | 0.646   |
| 9          | rs10990034 | 104167500 | rs10990041 | 1.000   |
| 9          | rs7033633  | 97026515 | rs356689  | 0.862   |
| 9          | rs4743091  | 97422771 | rs7854560 | 0.650   |
| 9          | rs4743271  | 97548530 | rs4743272 | 1.000   |
| 9          | rs1877431  | 99663198 | rs933501  | 0.381   |
| 9          | rs2052977  | 103061577 | rs12237965 | 0.646   |
| 9          | rs10990034 | 104167500 | rs10990041 | 1.000   |
| 9          | rs7033633  | 97026515 | rs356689  | 0.862   |
| 9          | rs4743091  | 97422771 | rs7854560 | 0.650   |
| 9          | rs4743271  | 97548530 | rs4743272 | 1.000   |
| 9          | rs1877431  | 99663198 | rs933501  | 0.381   |
| 9          | rs2052977  | 103061577 | rs12237965 | 0.646   |
| 9          | rs10990034 | 104167500 | rs10990041 | 1.000   |
| 9          | rs7033633  | 97026515 | rs356689  | 0.862   |
| 9          | rs4743091  | 97422771 | rs7854560 | 0.650   |
| 9          | rs4743271  | 97548530 | rs4743272 | 1.000   |
| 9          | rs1877431  | 99663198 | rs933501  | 0.381   |
| 9          | rs2052977  | 103061577 | rs12237965 | 0.646   |
| 9          | rs10990034 | 104167500 | rs10990041 | 1.000   |
| 9          | rs7033633  | 97026515 | rs356689  | 0.862   |
| 9          | rs4743091  | 97422771 | rs7854560 | 0.650   |
| 9          | rs4743271  | 97548530 | rs4743272 | 1.000   |
| 9          | rs1877431  | 99663198 | rs933501  | 0.381   |
| 9          | rs2052977  | 103061577 | rs12237965 | 0.646   |
| 9          | rs10990034 | 104167500 | rs10990041 | 1.000   |
| 9          | rs7033633  | 97026515 | rs356689  | 0.862   |
| 9          | rs4743091  | 97422771 | rs7854560 | 0.650   |
| 9          | rs4743271  | 97548530 | rs4743272 | 1.000   |
| 9          | rs1877431  | 99663198 | rs933501  | 0.381   |
| 9          | rs2052977  | 103061577 | rs12237965 | 0.646   |
| 9          | rs10990034 | 104167500 | rs10990041 | 1.000   |
| 9          | rs7033633  | 97026515 | rs356689  | 0.862   |
| 9          | rs4743091  | 97422771 | rs7854560 | 0.650   |
| 9          | rs4743271  | 97548530 | rs4743272 | 1.000   |
| 9          | rs1877431  | 99663198 | rs933501  | 0.381   |
| 9          | rs2052977  | 103061577 | rs12237965 | 0.646   |
| 9          | rs10990034 | 104167500 | rs10990041 | 1.000   |
| 9          | rs7033633  | 97026515 | rs356689  | 0.862   |
| 9          | rs4743091  | 97422771 | rs7854560 | 0.650   |
| 9          | rs4743271  | 97548530 | rs4743272 | 1.000   |
| 9          | rs1877431  | 99663198 | rs933501  | 0.381   |
| 9          | rs2052977  | 103061577 | rs12237965 | 0.646   |
| 9          | rs10990034 | 104167500 | rs10990041 | 1.000   |
| Chromosome | SNP1   | SNP2     | SNP3     | rsID    |
|------------|--------|----------|----------|---------|
| 9          | 124039773 | rs10818653 | 124065983 | rs10760220 | 0.468 |
| 9          | 124044926 | rs10760215 | 124065983 | rs10760220 | 0.982 |
| 9          | 126269939 | rs10818977 | 126425430 | rs4076333 | 0.346 |
| 9          | 129146599 | rs7863063  | 129165005 | rs10987613 | 0.252 |
| 10         | 130281629 | rs4837271  | 130329421 | rs869455  | 0.674 |
| 10         | 130281629 | rs4837271  | 130343343 | rs10760563 | 0.982 |
| 10         | 1313448145 | rs3765543  | 133522233 | rs6597515 | 0.216 |
| 10         | 134162233 | rs2296869  | 134162486 | rs2296870 | 0.988 |
| 10         | 134162233 | rs2296869  | 134163506 | rs2296871 | 0.991 |
| 10         | 137144989 | rs10858336 | 137148064 | rs11790027 | 0.441 |
| 10         | 14883426  | rs11253424 | 1488716   | rs11254759 | 0.919 |
| 10         | 1888716   | rs11250832 | 1892670   | rs10794794 | 0.202 |
| 10         | 1892367   | rs11250839 | 1892429   | rs4077784  | 0.525 |
| 10         | 1892367   | rs11250839 | 1892670   | rs10794794 | 0.504 |
| 10         | 1892429   | rs4077784  | 1892670   | rs10794794 | 0.980 |
| 10         | 2629732   | rs17158677 | 2635905   | rs17158687 | 0.947 |
| 10         | 2756759   | rs11251468 | 2756921   | rs11251469 | 1.000 |
| 10         | 3514893   | rs1962663  | 3572348   | rs705478  | 0.215 |
| 10         | 3514893   | rs1962663  | 3584187   | rs7911947 | 0.278 |
| 10         | 3572348   | rs705478   | 3584187   | rs7911947 | 0.233 |
| 10         | 3937069   | rs11599077 | 3942714   | rs7350412 | 0.292 |
| 10         | 3937069   | rs11599077 | 3946173   | rs4572033 | 0.450 |
| 10         | 3942714   | rs7350412  | 3946173   | rs4572033 | 0.441 |
| 10         | 4883318   | rs10795202 | 4916008   | rs7071257 | 0.679 |
| 10         | 5058113   | rs10904392 | 5103711   | rs4881394 | 0.270 |
| 10         | 6897313   | rs11254799 | 6922666   | rs11254798 | 0.347 |
| 10         | 8747207   | rs11255804 | 8771261   | rs7912831 | 0.302 |
| 10         | 9144442   | rs2760206  | 9148524   | rs17145188 | 0.482 |
| 10         | 9148524   | rs17145188 | 9244955   | rs10905523 | 0.210 |
| 10         | 9148524   | rs17145188 | 9255068   | rs11256103 | 0.207 |
| 10         | 9212297   | rs17145278 | 9244955   | rs10905523 | 0.742 |
| 10         | 9212297   | rs17145278 | 9255068   | rs11256103 | 0.737 |
| 10         | 9244955   | rs10905523 | 9255068   | rs11256103 | 1.000 |
| 10         | 9444181   | rs1762766  | 9449003   | rs2477043 | 0.987 |
| 10         | 9557144   | rs4749869  | 9557305   | rs4749871 | 1.000 |
| 10         | 11448476  | rs2440100  | 11494638  | rs2440110 | 0.753 |
| 10         | 11448476  | rs2440100  | 11505909  | rs2455596 | 0.639 |
| 10         | 114494638 | rs2440110  | 11505909  | rs2455596 | 0.458 |
| 10         | 12889254  | rs11258001 | 12889796  | rs10906228 | 0.701 |
| 10         | 13676307  | rs11258459 | 13692836  | rs7910585 | 0.514 |
| 10         | 13692836  | rs7910585  | 13724849  | rs10508463 | 0.394 |
|   |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|
| 10| 13692836| rs7910585| 13724911| rs11258494| 0.394|
| 10| 13692836| rs7910585| 13725082| rs10508464| 0.394|
| 10| 13692836| rs7910585| 13725194| rs10508465| 0.394|
| 10| 13692836| rs7910585| 13725557| rs4626964| 0.391|
| 10| 13692836| rs7910585| 13725772| rs13005| 0.394|
| 10| 13724849| rs10508463| 13724911| rs11258494| 1.000|
| 10| 13724849| rs10508463| 13725082| rs10508464| 1.000|
| 10| 13724849| rs10508463| 13725194| rs10508465| 1.000|
| 10| 13724849| rs10508463| 13725557| rs4626964| 0.983|
| 10| 13724849| rs10508463| 13725772| rs13005| 1.000|
| 10| 13724911| rs11258494| 13725082| rs10508464| 1.000|
| 10| 13724911| rs11258494| 13725194| rs10508465| 1.000|
| 10| 13724911| rs11258494| 13725557| rs4626964| 0.983|
| 10| 13724911| rs11258494| 13725772| rs13005| 1.000|
| 10| 13725082| rs10508464| 13725194| rs10508465| 1.000|
| 10| 13725082| rs10508464| 13725557| rs4626964| 0.983|
| 10| 13725082| rs10508464| 13725772| rs13005| 1.000|
| 10| 13725194| rs10508465| 13725557| rs4626964| 0.983|
| 10| 13725194| rs10508465| 13725772| rs13005| 1.000|
| 10| 13725557| rs4626964| 13725772| rs13005| 0.983|
| 10| 14158090| rs7095572| 14168566| rs968273| 0.350|
| 10| 16466321| rs17138511| 16469618| rs7082220| 0.451|
| 10| 17344934| rs5009752| 17370186| rs3592288| 0.225|
| 10| 18491890| rs11598236| 18510335| rs12413195| 0.236|
| 10| 19612735| rs2499065| 19641830| rs11009410| 0.237|
| 10| 19612735| rs2499065| 19684979| rs11009595| 0.249|
| 10| 19612735| rs2499065| 19685245| rs1591345| 0.221|
| 10| 19641830| rs11009410| 19684979| rs11009595| 0.779|
| 10| 19641830| rs11009410| 19685245| rs1591345| 0.543|
| 10| 19684979| rs11009595| 19685245| rs1591345| 0.669|
| 10| 19684979| rs11009595| 19733181| rs7079302| 0.215|
| 10| 19685245| rs1591345| 19733181| rs7079302| 0.215|
| 10| 20556872| rs7073927| 20556984| rs7074175| 1.000|
| 10| 22381427| rs4437938| 22381580| rs4266962| 1.000|
| 10| 22748913| rs11012989| 22764104| rs6482213| 0.325|
| 10| 22748913| rs11012989| 22780965| rs7914254| 0.541|
| 10| 22748913| rs11012989| 23204056| rs7899968| 0.210|
| 10| 22764104| rs6482213| 22780965| rs7914254| 0.461|
| 10| 23204056| rs7899968| 23277574| rs17440393| 0.249|
| 10| 23277574| rs17440393| 23289115| rs11013210| 0.788|
| 10| 23765898| rs2137157| 23808903| rs6482286| 0.214|
| 10| 25821413| rs1329255| 25828641| rs7072700| 0.522|
| 10| 25821413| rs1329255| 25828674| rs10828810| 0.312|
| 10| 25828641| rs7072700| 25828674| rs10828810| 0.308|
| 10 | 25828641 | rs7072700 | 25917657 | rs11014632 | 0.402 |
| 10 | 25828674 | rs10828810 | 25905769 | rs4747532 | 0.257 |
| 10 | 25828674 | rs10828810 | 25909549 | rs11014625 | 0.502 |
| 10 | 25905769 | rs4747532 | 25909549 | rs11014625 | 0.685 |
| 10 | 25905769 | rs4747532 | 25917657 | rs11014632 | 0.316 |
| 10 | 27295757 | rs7896781 | 27296142 | rs11015433 | 0.255 |
| 10 | 27709661 | rs532473 | 27722150 | rs1413895 | 0.685 |
| 10 | 27709661 | rs532473 | 27722495 | rs11014625 | 0.502 |
| 10 | 27722150 | rs1413895 | 27722495 | rs517060 | 0.634 |
| 10 | 29590393 | rs2211397 | 29609361 | rs2488264 | 0.254 |
| 10 | 29621792 | rs10763702 | 29626489 | rs10763704 | 0.255 |
| 10 | 29699711 | rs2620891 | 29700248 | rs3747878 | 0.335 |
| 10 | 29975384 | rs11007683 | 29975784 | rs17778999 | 1.000 |
| 10 | 30654280 | rs10763778 | 30680405 | rs10826786 | 0.967 |
| 10 | 3071645 | rs8176983 | 30771666 | rs8176984 | 0.982 |
| 10 | 30901965 | rs7074198 | 30902073 | rs4362058 | 1.000 |
| 10 | 34461560 | rs1692708 | 34481223 | rs678188 | 0.278 |
| 10 | 34464515 | rs10827330 | 34513449 | rs642099 | 0.516 |
| 10 | 34481223 | rs1148242 | 34535295 | rs678188 | 0.278 |
| 10 | 34535295 | rs678188 | 34567393 | rs1111267 | 0.274 |
| 10 | 36793219 | rs3924753 | 36899882 | rs2483008 | 0.266 |
| 10 | 37599485 | rs1200820 | 37604993 | rs1200826 | 0.837 |
| 10 | 47062190 | rs750211 | 47067457 | rs7069401 | 0.543 |
| 10 | 49646975 | rs12768835 | 49649839 | rs6537576 | 0.397 |
| 10 | 49646975 | rs12768835 | 49700029 | rs10857650 | 0.270 |
| 10 | 49646975 | rs12768835 | 49700248 | rs3747878 | 0.272 |
| 10 | 49649839 | rs6537576 | 49699711 | rs2620891 | 0.360 |
| 10 | 49649839 | rs6537576 | 49715462 | rs7922169 | 0.250 |
| 10 | 49698112 | rs12242220 | 49765425 | rs12248178 | 0.488 |
| 10 | 49699711 | rs2620891 | 49715462 | rs7922169 | 0.615 |
| 10 | 49699711 | rs2620891 | 49730508 | rs2620887 | 0.272 |
| 10 | 49699711 | rs2620891 | 49764792 | rs2671711 | 0.302 |
| 10 | 49700029 | rs10857650 | 49700248 | rs3747878 | 1.000 |
| 10 | 49700029 | rs10857650 | 49700248 | rs3747878 | 1.000 |
| 10 | 49700029 | rs10857650 | 49730508 | rs260887 | 0.398 |
| 10 | 49700029 | rs10857650 | 49764792 | rs2671711 | 0.333 |
| 10 | 49700248 | rs3747878 | 49730508 | rs2620887 | 0.400 |
| 10 | 49700248 | rs3747878 | 49764792 | rs2671711 | 0.335 |
| 10 | 49715462 | rs7922169 | 49730508 | rs2620887 | 0.242 |
| 10 | 49715462 | rs7922169 | 49764792 | rs2671711 | 0.254 |
| 10 | 49715462 | rs7922169 | 49765425 | rs12248178 | 0.250 |
| 10 | 49730508 | rs2620887 | 49764792 | rs2671711 | 0.814 |
| 10 | 52405002 | rs7076364 | 52437180 | rs1095339 | 0.739 |
| SNP1 | SNP2 | SNP3 | SNP4 | P_value |
|------|------|------|------|---------|
| rs7076364 | rs2186363 | rs2186364 | rs7895755 | 0.731 |
| rs2186363 | rs2186364 | rs2440454 | rs7895755 | 0.632 |
| rs2186363 | rs2186364 | rs2498177 | rs10761774 | 0.323 |
| rs2186363 | rs2186364 | rs2440454 | rs7895755 | 0.632 |
| rs2186363 | rs2186364 | rs2498177 | rs10761774 | 0.323 |
| rs2186363 | rs2186364 | rs2440454 | rs7895755 | 0.632 |
| rs2186363 | rs2186364 | rs2498177 | rs10761774 | 0.323 |
| rs2186363 | rs2186364 | rs2440454 | rs7895755 | 0.632 |
| rs2186363 | rs2186364 | rs2498177 | rs10761774 | 0.323 |
| rs2186363 | rs2186364 | rs2440454 | rs7895755 | 0.632 |
| rs2186363 | rs2186364 | rs2498177 | rs10761774 | 0.323 |
| rs2186363 | rs2186364 | rs2440454 | rs7895755 | 0.632 |
| rs2186363 | rs2186364 | rs2498177 | rs10761774 | 0.323 |
| rs2186363 | rs2186364 | rs2440454 | rs7895755 | 0.632 |
| rs2186363 | rs2186364 | rs2498177 | rs10761774 | 0.323 |
|   |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|
| 10| 60809191 | rs7069283 | 60811072 | rs7903343 | 0.947 |
| 10| 61224012 | rs2271564 | 61364310 | rs1664278 | 0.327 |
| 10| 64343487 | rs10740095 | 64421047 | rs4746783 | 0.328 |
| 10| 64594223 | rs11817689 | 64813564 | rs9415699 | 1.000 |
| 10| 64915681 | rs16918507 | 64985492 | rs6479906 | 0.249 |
| 10| 66648119 | rs9414877 | 66676003 | rs10996304 | 0.584 |
| 10| 66676003 | rs10996304 | 66681694 | rs7906982 | 0.406 |
| 10| 66676003 | rs10996304 | 66689678 | rs9415814 | 0.304 |
| 10| 66681694 | rs7906982 | 66689678 | rs9415814 | 0.659 |
| 10| 67337138 | rs1670159 | 67359195 | rs1786923 | 0.335 |
| 10| 68786426 | rs9415871 | 68848215 | rs10740277 | 0.630 |
| 10| 69591909 | rs10997963 | 69605065 | rs7097776 | 0.271 |
| 10| 69591909 | rs10997963 | 69629843 | rs4746738 | 0.370 |
| 10| 69605065 | rs7097776 | 69629843 | rs4746738 | 0.578 |
| 10| 69883970 | rs10998184 | 69884059 | rs10998185 | 0.359 |
| 10| 69883970 | rs10998184 | 69939971 | rs2457458 | 0.372 |
| 10| 72958955 | rs7911202 | 72966441 | rs4747164 | 0.287 |
| 10| 73126384 | rs7094357 | 73127923 | rs10999960 | 0.788 |
| 10| 74438930 | rs12253630 | 74677594 | rs16930466 | 0.541 |
| 10| 80764708 | rs16937080 | 80771685 | rs2105461 | 0.223 |
| 10| 80764708 | rs16937080 | 80773868 | rs1892498 | 0.224 |
| 10| 80764708 | rs16937080 | 80775690 | rs4246944 | 0.228 |
| 10| 80771685 | rs2105461 | 80773868 | rs1892498 | 0.973 |
| 10| 80771685 | rs2105461 | 80775690 | rs4246944 | 0.605 |
| 10| 80773868 | rs1892498 | 80775690 | rs4246944 | 0.590 |
| 10| 81779567 | rs11201269 | 81801652 | rs4478933 | 0.253 |
| 10| 84714402 | rs17761683 | 84773295 | rs11196923 | 1.000 |
| 10| 85720683 | rs11200762 | 85720790 | rs11200763 | 1.000 |
| 10| 85720683 | rs11200762 | 85749135 | rs7909859 | 0.353 |
| 10| 85720790 | rs11200763 | 85749135 | rs7909859 | 0.353 |
| 10| 87478860 | rs7924009 | 87507487 | rs2949380 | 0.929 |
| 10| 91382747 | rs12771413 | 91384059 | rs11330 | 0.970 |
| 10| 91599612 | rs12251257 | 91602036 | rs10881695 | 0.555 |
| 10| 93756295 | rs11186792 | 93824133 | rs2185834 | 0.750 |
| 10| 97056288 | rs10786198 | 97061507 | rs3814150 | 0.254 |
| 10| 98546775 | rs6584099 | 98693207 | rs7080839 | 0.747 |
| 10| 98546775 | rs6584099 | 98737104 | rs4606419 | 0.570 |
| 10| 98693207 | rs7080839 | 98737104 | rs4606419 | 0.782 |
| 10| 99677879 | rs4917792 | 99681340 | rs4919164 | 0.891 |
| 10| 99878119 | rs1413618 | 99878333 | rs928579 | 1.000 |
| 10| 99878119 | rs1413618 | 99899333 | rs10748721 | 0.966 |
| 10| 99878119 | rs1413618 | 99994896 | rs3750595 | 0.991 |
| 10| 99878333 | rs928579 | 99994896 | rs3750595 | 0.991 |
| 10 | 99989333 | rs10748721 | 99994896 | rs3750595 | 0.974 |
| 10 | 100717696 | rs11189910 | 100748309 | rs7924025 | 0.314 |
| 10 | 100717696 | rs11189910 | 100862771 | rs1342580 | 0.384 |
| 10 | 100717696 | rs11189910 | 100967599 | rs10883299 | 0.347 |
| 10 | 100862771 | rs1342580 | 100967599 | rs10883299 | 0.885 |
| 10 | 100873537 | rs1954295 | 101047389 | rs7899146 | 0.763 |
| 10 | 100873537 | rs1954295 | 101094702 | rs10883299 | 0.384 |
| 10 | 100873537 | rs1954295 | 101096759 | rs10883299 | 0.347 |
| 10 | 101047389 | rs1342580 | 101096759 | rs10883299 | 0.774 |
| 10 | 102422700 | rs11190643 | 102445505 | rs10883299 | 0.885 |
| 10 | 102422700 | rs11190643 | 102458016 | rs7082923 | 0.201 |
| 10 | 102458016 | rs10786601 | 102458016 | rs7082923 | 0.303 |
| 10 | 103998741 | rs4244350 | 104026345 | rs812799 | 0.901 |
| 10 | 103998741 | rs4244350 | 104026439 | rs772021 | 0.966 |
| 10 | 104026439 | rs812799 | 104026439 | rs772021 | 0.911 |
| 10 | 104585410 | rs3781287 | 104820809 | rs10883826 | 0.598 |
| 10 | 106043631 | rs156699 | 106060991 | rs10491046 | 0.528 |
| 10 | 106043631 | rs156699 | 106067576 | rs10883991 | 0.480 |
| 10 | 106043631 | rs156699 | 106079416 | rs11192008 | 0.383 |
| 10 | 106043631 | rs156699 | 106080777 | rs276214 | 0.202 |
| 10 | 106060991 | rs10491046 | 106067576 | rs10883991 | 0.687 |
| 10 | 106060991 | rs10491046 | 106079416 | rs11192008 | 0.512 |
| 10 | 106067576 | rs10883991 | 106079416 | rs11192008 | 0.529 |
| 10 | 106862575 | rs11192321 | 106887944 | rs10884103 | 0.811 |
| 10 | 107908905 | rs11192739 | 107938899 | rs10884268 | 0.788 |
| 10 | 108342175 | rs17121023 | 108354299 | rs11817663 | 0.268 |
| 10 | 108432009 | rs821925 | 108445133 | rs821958 | 0.753 |
| 10 | 108918548 | rs7099998 | 108918701 | rs7082331 | 1.000 |
| 10 | 108918548 | rs7099998 | 108918890 | rs10884426 | 1.000 |
| 10 | 108918701 | rs7082331 | 108918890 | rs10884426 | 1.000 |
| 10 | 109571175 | rs17227554 | 109571479 | rs17325365 | 0.991 |
| 10 | 110366810 | rs1332260 | 110384900 | rs12412977 | 0.595 |
| 10 | 110970055 | rs10884712 | 110994544 | rs3888122 | 0.523 |
| 10 | 110970055 | rs10884712 | 110998503 | rs11194511 | 0.348 |
| 10 | 110970055 | rs10884712 | 111021967 | rs830062 | 0.505 |
| 10 | 110970055 | rs10884712 | 11103117 | rs7920353 | 0.303 |
| 10 | 110994544 | rs3888122 | 110998503 | rs11194511 | 0.427 |
| 10 | 110994544 | rs3888122 | 111021967 | rs830062 | 0.961 |
| 10 | 110994544 | rs3888122 | 111084275 | rs11194562 | 0.233 |
| 10 | 110998503 | rs11194511 | 111021967 | rs830062 | 0.391 |
| 10 | 111021967 | rs830062 | 111084275 | rs11194562 | 0.232 |
| 10 | 111084275 | rs11194562 | 111103117 | rs7920353 | 0.461 |
| 10 | 111620721 | rs612155 | 111648324 | rs944966 | 0.229 |
| 10 | 111648324 | rs944966 | 111699868 | rs12768489 | 0.582 |
| 10 | 112121472 | rs10884954 | 112144100 | rs4918508 | 0.293 |
| 10 | 113026683 | rs10509936 | 113030534 | rs10749065 | 0.472 |
| 10 | 113520074 | rs10885262 | 113547792 | rs11195730 | 0.668 |
| 10 | 114065189 | rs1887136 | 114092662 | rs11981570 | 0.366 |
| 10 | 114065189 | rs1887136 | 114182275 | rs12056158 | 0.268 |
| 10 | 114926626 | rs11981570 | 114182275 | rs12056158 | 0.507 |
| 10 | 114332265 | rs12268627 | 114332350 | rs12254159 | 0.890 |
| 10 | 114757761 | rs4132670 | 114778805 | rs12243326 | 0.409 |
| 10 | 116876309 | rs11197072 | 117214465 | rs17093112 | 0.297 |
| 10 | 116876309 | rs11197072 | 117417474 | rs17093112 | 0.308 |
| 10 | 117214465 | rs17093112 | 117417474 | rs12219110 | 0.764 |
| 10 | 118638831 | rs12268627 | 118808539 | rs12254159 | 0.354 |
| 10 | 118638831 | rs12268627 | 118819674 | rs12219110 | 0.366 |
| 10 | 118808539 | rs7094283 | 118819674 | rs12219110 | 0.779 |
| 10 | 118949003 | rs3847483 | 118963135 | rs12254159 | 0.890 |
| 10 | 118949003 | rs3847483 | 118963259 | rs12219110 | 0.876 |
| 10 | 118963135 | rs3858335 | 118963259 | rs12219110 | 1.000 |
| 10 | 122706857 | rs10788134 | 122712496 | rs12219110 | 0.398 |
| 10 | 122993625 | rs7899480 | 122993679 | rs12219110 | 0.990 |
| 10 | 123573965 | rs3862129 | 123666737 | rs11200257 | 0.949 |
| 10 | 123573965 | rs3862129 | 123697712 | rs11200257 | 0.905 |
| 10 | 123573965 | rs3862129 | 124019426 | rs11200257 | 0.880 |
| 10 | 123666737 | rs11200257 | 123697712 | rs11200257 | 0.914 |
| 10 | 123666737 | rs11200257 | 123697712 | rs11200257 | 0.962 |
| 10 | 123693800 | rs11200257 | 123697712 | rs11200257 | 0.961 |
| 10 | 123693800 | rs11200257 | 123705392 | rs11200257 | 1.000 |
| 10 | 12369712 | rs7906271 | 123705392 | rs11200257 | 0.965 |
| 10 | 124019426 | rs1885512 | 124214077 | rs11200640 | 0.227 |
| 10 | 125074629 | rs913524 | 125088556 | rs11200640 | 0.991 |
| 10 | 125074629 | rs913524 | 125104041 | rs11200640 | 0.611 |
| 10 | 125088556 | rs6599688 | 125104041 | rs11200640 | 0.620 |
| 10 | 127400272 | rs904381 | 127409227 | rs6599688 | 1.000 |
| 10 | 129218811 | rs1931744 | 129240631 | rs6599688 | 0.300 |
| 10 | 129582283 | rs2148895 | 129636049 | rs6599688 | 0.318 |
| 10 | 130034129 | rs10829385 | 130057287 | rs6599688 | 0.251 |
| 10 | 131881171 | rs16910188 | 131897272 | rs1410906 | 0.285 |
| 10 | 132068996 | rs431131 | 132071257 | rs1410906 | 0.429 |
| 10 | 132069411 | rs7084067 | 132071257 | rs1410906 | 0.512 |
| 10 | 132118628 | rs880832 | 132165808 | rs1410906 | 0.693 |
| 10 | 132118628 | rs880832 | 132173058 | rs1410906 | 0.764 |
| 10 | 132118628 | rs880832 | 132177561 | rs1410906 | 0.512 |
| 10 | 132118628 | rs880832 | 132205806 | rs1410906 | 0.522 |
| 10 | 132118628 | rs880832 | 132206587 | rs1410906 | 0.489 |
| 10  | 132160832 | rs400803 | 132160885 | rs431690 | 1.000 |
| 10  | 132160832 | rs400803 | 132187763 | rs10764960 | 0.287 |
| 10  | 132160885 | rs431690 | 132187763 | rs10764960 | 0.287 |
| 10  | 132165808 | rs11017270 | 132173058 | rs402807 | 0.738 |
| 10  | 132165808 | rs11017270 | 132177763 | rs426715 | 0.691 |
| 10  | 132165808 | rs11017270 | 132205806 | rs4751217 | 0.755 |
| 10  | 132165808 | rs11017270 | 132206587 | rs6482809 | 0.858 |
| 10  | 132173058 | rs402807 | 132205806 | rs4751217 | 0.866 |
| 10  | 132173058 | rs402807 | 132206587 | rs6482809 | 0.858 |
| 10  | 132177561 | rs426715 | 132205806 | rs4751217 | 0.897 |
| 10  | 132177561 | rs426715 | 132206587 | rs6482809 | 0.891 |
| 10  | 132205806 | rs4751217 | 132206587 | rs6482809 | 1.000 |
| 10  | 132611226 | rs7074195 | 132661360 | rs11017622 | 0.265 |
| 10  | 132611226 | rs7074195 | 132661446 | rs11017623 | 0.265 |
| 10  | 132628747 | rs2397738 | 132630798 | rs892322 | 0.981 |
| 10  | 132628747 | rs2397738 | 132641908 | rs10829854 | 0.981 |
| 10  | 132628747 | rs2397738 | 132661360 | rs11017622 | 0.254 |
| 10  | 132630798 | rs892322 | 132641908 | rs10829854 | 0.981 |
| 10  | 132630798 | rs892322 | 132661360 | rs11017622 | 0.256 |
| 10  | 132630798 | rs892322 | 132661446 | rs11017623 | 0.256 |
| 10  | 132641908 | rs10829854 | 132661360 | rs11017622 | 0.259 |
| 10  | 132641908 | rs10829854 | 132661446 | rs11017623 | 0.259 |
| 10  | 132661360 | rs11017622 | 132661446 | rs11017623 | 1.000 |
| 10  | 133250389 | rs10765092 | 133251032 | rs7074167 | 0.991 |
| 11   | 2483882  | rs179409 | 2486738 | rs2237866 | 0.292 |
| 11   | 3648225  | rs2672215 | 3648600 | rs2672216 | 0.729 |
| 11   | 5072704  | rs12282135 | 5073531 | rs11035648 | 0.467 |
| 11   | 5145420  | rs10734485 | 5145512 | rs10742553 | 0.873 |
| 11   | 5145420  | rs10734485 | 5166168 | rs11602279 | 0.481 |
| 11   | 5145512  | rs10742553 | 5166168 | rs11602279 | 0.481 |
| 11   | 6716101  | rs2067022 | 6749489 | rs7947196 | 0.207 |
| 11   | 6716101  | rs2067022 | 6749466 | rs10839617 | 0.209 |
| 11   | 6749489  | rs7947196 | 6749646 | rs10839617 | 1.000 |
| 11   | 6826194  | rs10839628 | 6840789 | rs2741774 | 0.338 |
| 11   | 7214147  | rs766497 | 7403545 | rs10839781 | 0.259 |
| 11   | 9031596  | rs3763904 | 9038237 | rs7127387 | 0.849 |
| 11   | 9706221  | rs397686 | 9755312 | rs7120754 | 0.288 |
| 11   | 9755312  | rs7120754 | 9857034 | rs1546542 | 0.223 |
| 11   | 10986547 | rs1386152 | 11002835 | rs10500737 | 0.218 |
| 11   | 12330256 | rs16911154 | 12330765 | rs16911159 | 0.945 |
| 11   | 13053050 | rs10500770 | 13056122 | rs2165484 | 0.284 |
| 11   | 13053050 | rs10500770 | 13057878 | rs11022636 | 0.284 |
|   |   |   |   |   |
|---|---|---|---|---|
| 11 | 13053050 | rs10500770 | 13059500 | rs2583136 | 0.205 |
| 11 | 13056122 | rs2165484 | 13057878 | rs11022636 | 1.000 |
| 11 | 13056122 | rs2165484 | 13059500 | rs2583136 | 0.740 |
| 11 | 13056122 | rs2165484 | 13081100 | rs3849154 | 0.385 |
| 11 | 13057878 | rs11022636 | 13059500 | rs2583136 | 0.740 |
| 11 | 13057878 | rs11022636 | 13081100 | rs3849154 | 0.385 |
| 11 | 13059500 | rs2583136 | 13081100 | rs3849154 | 0.482 |
| 11 | 13435415 | rs2593579 | 13530459 | rs10500785 | 0.906 |
| 11 | 13435415 | rs2593579 | 13578990 | rs11022899 | 0.724 |
| 11 | 13435415 | rs2593579 | 13581879 | rs3849154 | 0.385 |
| 11 | 13530459 | rs10500785 | 13578990 | rs11022899 | 0.761 |
| 11 | 13530459 | rs10500785 | 13581879 | rs10832081 | 0.943 |
| 11 | 13578990 | rs11022899 | 13581879 | rs10832081 | 0.810 |
| 11 | 13616373 | rs12420514 | 13625777 | rs12786409 | 0.845 |
| 11 | 14029178 | rs11821106 | 14034447 | rs7131289 | 0.677 |
| 11 | 15475924 | rs10832454 | 15516762 | rs2351097 | 0.877 |
| 11 | 16346170 | rs297325 | 16389040 | rs12221729 | 0.797 |
| 11 | 16346170 | rs297325 | 16441827 | rs10500830 | 0.745 |
| 11 | 16346170 | rs297325 | 16626773 | rs4756858 | 0.623 |
| 11 | 16365152 | rs1847315 | 16394904 | rs7947297 | 0.990 |
| 11 | 16389040 | rs12221729 | 16441827 | rs10500830 | 0.745 |
| 11 | 16441827 | rs10500830 | 16626773 | rs4756858 | 0.571 |
| 11 | 16926330 | rs10766360 | 16931362 | rs2883150 | 0.912 |
| 11 | 16982316 | rs4757484 | 16984904 | rs7947297 | 0.990 |
| 11 | 16982316 | rs4757484 | 16985321 | rs7933984 | 0.990 |
| 11 | 16984904 | rs7947297 | 16985321 | rs7933984 | 1.000 |
| 11 | 18134918 | rs2445206 | 18153416 | rs10832896 | 0.210 |
| 11 | 18134918 | rs2445206 | 18156255 | rs2468772 | 0.937 |
| 11 | 18135024 | rs11024502 | 18153416 | rs10832896 | 0.590 |
| 11 | 18153416 | rs10832896 | 18156255 | rs2468772 | 0.221 |
| 11 | 19584103 | rs10833134 | 19644968 | rs12574517 | 0.616 |
| 11 | 19584103 | rs10833134 | 19647564 | rs7927862 | 0.535 |
| 11 | 19644968 | rs12574517 | 19647564 | rs7927862 | 0.879 |
| 11 | 21807233 | rs16908613 | 21818153 | rs1009809 | 0.969 |
| 11 | 21981697 | rs428209 | 21982053 | rs1379649 | 1.000 |
| 11 | 21981697 | rs428209 | 22056773 | rs10766916 | 0.443 |
| 11 | 21982053 | rs1379649 | 22056773 | rs10766916 | 0.447 |
| 11 | 22840459 | rs12278342 | 22863000 | rs2429772 | 0.614 |
| 11 | 22840459 | rs12278342 | 22875997 | rs2429752 | 0.616 |
| 11 | 22840459 | rs12278342 | 22957547 | rs2403793 | 0.465 |
| 11 | 22863000 | rs2429772 | 22875997 | rs2429752 | 0.962 |
| 11 | 22863000 | rs2429772 | 22957547 | rs2403793 | 0.618 |
| 11 | 22875997 | rs2429752 | 22957547 | rs2403793 | 0.645 |
| 11 | 23169551 | rs7112339 | 23180811 | rs1600957 | 0.710 |
| 11 | 23169551 | rs7112339 | 23192822 | rs1482735 | 0.907 |
| 11 | 23180811 | rs1600957 | 23192822 | rs1482735 | 0.708 |
| 11 | 24734687 | rs2716548 | 24758224 | rs1486698 | 0.310 |
| 11 | 25045328 | rs1838773 | 25109057 | rs2404026 | 0.268 |
| 11 | 25070842 | rs11028415 | 25109057 | rs2404026 | 0.240 |
| 11 | 25143560 | rs10742069 | 25143952 | rs7107300 | 0.374 |
| 11 | 25714362 | rs11028885 | 25747721 | rs1389421 | 0.295 |
| 11 | 25840913 | rs17242747 | 25910098 | rs16914910 | 0.639 |
| 11 | 25862285 | rs7943568 | 25909353 | rs10834856 | 0.456 |
| 11 | 25862285 | rs7943568 | 25909416 | rs1441486 | 0.452 |
| 11 | 25909353 | rs10834856 | 25909416 | rs1441486 | 0.992 |
| 11 | 27151203 | rs920698 | 27154937 | rs7938462 | 0.201 |
| 11 | 32565979 | rs201879 | 32597568 | rs201905 | 0.892 |
| 11 | 32565979 | rs201879 | 32676276 | rs11031940 | 0.563 |
| 11 | 32565979 | rs201879 | 32680449 | rs1486582 | 0.729 |
| 11 | 32565979 | rs201879 | 32730565 | rs9943472 | 0.763 |
| 11 | 32565979 | rs201879 | 32779010 | rs7102857 | 0.665 |
| 11 | 32595768 | rs201905 | 32676276 | rs11031940 | 0.627 |
| 11 | 32595768 | rs201905 | 32680449 | rs1486582 | 0.826 |
| 11 | 32595768 | rs201905 | 32730565 | rs9943472 | 0.812 |
| 11 | 32595768 | rs201905 | 32779010 | rs7102857 | 0.758 |
| 11 | 32676276 | rs11031940 | 32680449 | rs1486582 | 0.706 |
| 11 | 32676276 | rs11031940 | 32730565 | rs9943472 | 0.716 |
| 11 | 32676276 | rs11031940 | 32779010 | rs7102857 | 0.638 |
| 11 | 32680449 | rs1486582 | 32730565 | rs9943472 | 0.983 |
| 11 | 32680449 | rs1486582 | 32779010 | rs7102857 | 0.922 |
| 11 | 32730565 | rs9943472 | 32779010 | rs7102857 | 0.907 |
| 11 | 33727790 | rs1402953 | 33757109 | rs11032380 | 0.856 |
| 11 | 35219600 | rs1402953 | 35266112 | rs11032380 | 0.856 |
| 11 | 35345354 | rs11033099 | 35348844 | rs7116961 | 0.951 |
| 11 | 35481696 | rs601295 | 35482454 | rs597762 | 1.000 |
| 11 | 40209482 | rs1452475 | 40241419 | rs10734480 | 0.558 |
| 11 | 40542692 | rs1353354 | 40542978 | rs10837436 | 0.933 |
| 11 | 40542692 | rs1353354 | 40543235 | rs11035930 | 0.808 |
| 11 | 40542978 | rs10837436 | 40543235 | rs11035930 | 0.882 |
| 11 | 41000401 | rs10742570 | 41014153 | rs4631866 | 0.244 |
| 11 | 42285325 | rs11036825 | 42302576 | rs4424659 | 0.903 |
| 11 | 42285325 | rs11036825 | 42307623 | rs10768795 | 0.319 |
| 11 | 42302576 | rs4424659 | 42307623 | rs10768795 | 0.314 |
| 11 | 44124572 | rs4755782 | 44167215 | rs1390073 | 0.957 |
| 11 | 45217918 | rs2863172 | 45224291 | rs4755941 | 0.851 |
| 11 | 45217918 | rs2863172 | 45233558 | rs6416130 | 0.690 |
| 11 | 45217918 | rs2863172 | 45236863 | rs4237652 | 0.688 |
|   | 45224291 | rs4755941 | 45233558 | rs6416130 | 0.799 |
|---|---------|-----------|---------|---------|-------|
| 11| 45224291| rs4755941 | 45236863 | rs4237652 | 0.798 |
| 11| 45233558| rs6416130 | 45236863 | rs4237652 | 1.000 |
| 11| 45830024| rs2037311 | 45835452 | rs9300053 | 0.484 |
| 11| 45830024| rs2037311 | 45856538 | rs12281674 | 0.909 |
| 11| 45835452| rs9300053 | 45856538 | rs12281674 | 0.532 |
| 11| 45931219| rs1996573 | 46029113 | rs11038752 | 0.355 |
| 11| 48229272| rs1503168 | 48960517 | rs1847639 | 0.448 |
| 11| 48586010| rs12365014| 48960517 | rs1847639 | 0.330 |
| 11| 49154124| rs17815807| 49283110 | rs3960835  | 0.933 |
| 11| 49154124| rs17815807| 50103012 | rs17489472 | 0.583 |
| 11| 49283110| rs3960835 | 50103012 | rs17489472 | 0.627 |
| 11| 54954489| rs1364762 | 55017848 | rs17494536 | 0.957 |
| 11| 54954489| rs1364762 | 55025431 | rs7115527  | 0.912 |
| 11| 54954489| rs1364762 | 55033178 | rs9666744  | 0.674 |
| 11| 54954489| rs1364762 | 55054138 | rs11828054 | 0.674 |
| 11| 54954489| rs1364762 | 55060775 | rs17580694 | 0.674 |
| 11| 54954489| rs1364762 | 55423089 | rs12098903 | 0.779 |
| 11| 55017848| rs17494536| 55025431 | rs7115527  | 0.954 |
| 11| 55017848| rs17494536| 55033178 | rs9666744  | 0.707 |
| 11| 55017848| rs17494536| 55054138 | rs11828054 | 0.707 |
| 11| 55017848| rs17494536| 55060775 | rs17580694 | 0.707 |
| 11| 55017848| rs17494536| 55423089 | rs12098903 | 0.815 |
| 11| 55017848| rs17494536| 55434921 | rs17596143 | 0.815 |
| 11| 55025431| rs7115527 | 55033178 | rs9666744  | 0.668 |
| 11| 55025431| rs7115527 | 55054138 | rs11828054 | 0.668 |
| 11| 55025431| rs7115527 | 55060775 | rs17580694 | 0.668 |
| 11| 55025431| rs7115527 | 55423089 | rs12098903 | 0.789 |
| 11| 55025431| rs7115527 | 55434921 | rs17596143 | 0.789 |
| 11| 55033178| rs9666744 | 5504138  | rs11828054 | 0.100 |
| 11| 55033178| rs9666744 | 55060775 | rs17580694 | 1.000 |
| 11| 55033178| rs9666744 | 55423089 | rs12098903 | 0.567 |
| 11| 55033178| rs9666744 | 55434921 | rs17596143 | 0.567 |
| 11| 55033178| rs9666744 | 55465391 | rs17598094 | 0.528 |
| 11| 55054138| rs11828054| 55060775 | rs17580694 | 0.100 |
| 11| 55054138| rs11828054| 55423089 | rs12098903 | 0.567 |
| 11| 55054138| rs11828054| 55434921 | rs17596143 | 0.567 |
| 11| 55054138| rs11828054| 55465391 | rs17598094 | 0.528 |
| 11| 55060775| rs17580694| 55465391 | rs17598094 | 0.528 |
| 11| 55060775| rs17580694| 55605691 | rs17602278 | 0.510 |
| 11| 55060775| rs17580694| 55605732 | rs17530228 | 0.510 |
| SNP1  | SNP2  | SNP3  | SNP4  | Distance | P-value |
|-------|-------|-------|-------|----------|---------|
| 55423089 | rs12098903 | 55434921 | rs17596143 | 1.000 |
| 55423089 | rs12098903 | 55465391 | rs17598094 | 0.939 |
| 55423089 | rs12098903 | 55605691 | rs17602278 | 0.911 |
| 55423089 | rs12098903 | 55607598 | rs17530228 | 0.911 |
| 55434921 | rs17596143 | 55465391 | rs17598094 | 0.939 |
| 55434921 | rs17596143 | 55605691 | rs17602278 | 0.911 |
| 55434921 | rs17596143 | 55605732 | rs17530228 | 0.911 |
| 55434921 | rs17596143 | 55607598 | rs17530318 | 0.911 |
| 55434921 | rs17596143 | 55616001 | rs7943453 | 0.860 |
| 55439287 | rs17148897 | 55905598 | rs10750820 | 0.923 |
| 55439287 | rs17148897 | 56298572 | rs11228775 | 0.256 |
| 55465391 | rs17598094 | 55465391 | rs17598094 | 0.970 |
| 55465391 | rs17598094 | 55605691 | rs17602278 | 0.911 |
| 55465391 | rs17598094 | 55605732 | rs17530228 | 0.911 |
| 55465391 | rs17598094 | 55607598 | rs17530318 | 0.911 |
| 55605691 | rs17602278 | 55605732 | rs17530228 | 1.000 |
| 55605691 | rs17602278 | 55607598 | rs17530318 | 1.000 |
| 55605691 | rs17602278 | 55616001 | rs7943453 | 0.931 |
| 55605691 | rs17602278 | 56298572 | rs11228775 | 0.336 |
| 56438326 | rs12272961 | 56440326 | rs1793426 | 0.979 |
| 56713092 | rs2903267 | 56713994 | rs1943489 | 1.000 |
| 57812866 | rs4127345 | 57885744 | rs4529896 | 0.787 |
| 60120537 | rs11230420 | 60140043 | rs12280505 | 0.838 |
| 60340498 | rs2957229 | 60342231 | rs565679 | 0.983 |
| 60340498 | rs2957229 | 60342652 | rs593315 | 0.983 |
| 60340498 | rs2957229 | 60352415 | rs10897118 | 0.647 |
| 60342231 | rs565679 | 60342652 | rs593315 | 0.965 |
| 60342231 | rs565679 | 60352415 | rs10897118 | 0.612 |
| 60342652 | rs593315 | 60352415 | rs10897118 | 0.637 |
| 64596273 | rs907629 | 64605528 | rs508375 | 0.490 |
| 70717451 | rs17433007 | 70729463 | rs10897995 | 0.371 |
| 70717451 | rs17433007 | 71578612 | rs2071010 | 0.444 |
| 71303737 | rs7113974 | 71515856 | rs7109653 | 0.273 |
| 71420383 | rs1939243 | 71425794 | rs4945426 | 1.000 |
| 71420383 | rs1939243 | 71515856 | rs7109653 | 0.211 |
| 75124598 | rs683941 | 75124632 | rs684004 | 0.634 |
| 75177100 | rs1017713 | 75220909 | rs12278224 | 0.475 |
| 75820667 | rs10793164 | 75934863 | rs3753051 | 0.274 |
| 76747452 | rs876319 | 76795565 | rs2725834 | 0.778 |
| rs1   | rs2   | rs3   | rs4   | p     |
|------|------|------|------|------|
| 77024533 | rs7925252 | 77255512 | rs603462 | 0.206 |
| 77954925 | rs10751296 | 77962381 | rs4457782 | 1.000 |
| 78766903 | rs472870 | 78779722 | rs580331 | 0.698 |
| 78766903 | rs472870 | 78805883 | rs11237826 | 0.318 |
| 78779722 | rs580331 | 78805883 | rs11237826 | 0.390 |
| 78905159 | rs11237878 | 78917149 | rs11237887 | 1.000 |
| 79366452 | rs642770 | 79401323 | rs6592876 | 0.232 |
| 79777451 | rs2448269 | 79777810 | rs7112033 | 0.282 |
| 79988714 | rs1949886 | 80007549 | rs4614474 | 0.411 |
| 80007427 | rs2373547 | 80022511 | rs11232256 | 0.428 |
| 82104086 | rs533709 | 82111606 | rs497360 | 0.426 |
| 82913481 | rs6592120 | 82970299 | rs515618 | 0.488 |
| 82913481 | rs6592120 | 82974099 | rs558211 | 0.473 |
| 82970299 | rs515618 | 82974099 | rs558211 | 0.990 |
| 84463780 | rs1826613 | 84463859 | rs1823777 | 1.000 |
| 87104758 | rs4485130 | 88020199 | rs7396702 | 0.226 |
| 87104758 | rs4485130 | 88073510 | rs10082580 | 0.206 |
| 87855625 | rs613716 | 87857870 | rs308766 | 0.677 |
| 87857870 | rs308766 | 88073510 | rs10082580 | 0.224 |
| 88020199 | rs7396702 | 88073510 | rs10082580 | 0.433 |
| 88020199 | rs7396702 | 88074716 | rs961689 | 0.369 |
| 88073510 | rs10082580 | 88074716 | rs961689 | 0.287 |
| 89508403 | rs10734123 | 89535588 | rs7928477 | 1.000 |
| 89508403 | rs10734123 | 89538230 | rs10732446 | 0.991 |
| 89508403 | rs10734123 | 89538330 | rs10732447 | 0.971 |
| 89535588 | rs7928477 | 89538230 | rs10732446 | 0.990 |
| 89535588 | rs7928477 | 89538330 | rs10732447 | 0.968 |
| 89538230 | rs10732446 | 89538330 | rs10732447 | 0.962 |
| 89761523 | rs2048139 | 89842824 | rs10830506 | 0.877 |
| 89761523 | rs2048139 | 89921579 | rs10501721 | 0.834 |
| 89761523 | rs2048139 | 89996935 | rs10765374 | 0.789 |
| 89842824 | rs10830506 | 89921579 | rs10501721 | 0.863 |
| 89842824 | rs10830506 | 89996935 | rs10765374 | 0.904 |
| 89921579 | rs10501721 | 89996935 | rs10765374 | 0.892 |
| 91755571 | rs7127751 | 91831533 | rs643695 | 0.620 |
| 93890094 | rs629119 | 93890123 | rs629156 | 1.000 |
| 93890094 | rs629119 | 93906765 | rs11020812 | 0.251 |
| 93890123 | rs629156 | 93906765 | rs11020812 | 0.251 |
| 93894907 | rs16924603 | 93906765 | rs11020812 | 0.536 |
| 93894907 | rs16924603 | 93948540 | rs11020836 | 0.354 |
| 93906765 | rs11020812 | 93948540 | rs11020836 | 0.289 |
| 94989214 | rs11021246 | 95008102 | rs12365735 | 0.488 |
| 96761688 | rs12294161 | 96762309 | rs347768 | 0.337 |
| 97962694 | rs11216033 | 97966670 | rs9783305 | 0.911 |
| Chromosome | SNP ID | SNP ID | SNP ID | SNP ID | rsID | p-value |
|------------|--------|--------|--------|--------|------|---------|
| 11         | 99128324 | rs11221224 | 99245527 | rs10894037 | 0.228 |
| 11         | 100221671 | rs667504 | 100248072 | rs10750596 | 0.470 |
| 11         | 101225143 | rs10501992 | 101225220 | rs4315037 | 0.984 |
| 11         | 101970436 | rs1711437 | 101974719 | rs1784408 | 0.729 |
| 11         | 101970436 | rs1711437 | 101982216 | rs1711427 | 0.879 |
| 11         | 103713704 | rs11226307 | 103804161 | rs1487687 | 0.228 |
| 11         | 103713704 | rs11226307 | 103836649 | rs10791703 | 0.409 |
| 11         | 103713704 | rs11226307 | 103902520 | rs1487687 | 0.277 |
| 11         | 103804161 | rs4755036 | 103836649 | rs10791703 | 0.828 |
| 11         | 103804161 | rs4755036 | 103902520 | rs1487687 | 0.565 |
| 11         | 105388824 | rs2847181 | 105416001 | rs11226905 | 0.437 |
| 11         | 105388824 | rs2847181 | 105425885 | rs6591148 | 0.401 |
| 11         | 107040834 | rs477835 | 107329312 | rs747145 | 0.242 |
| 11         | 107210818 | rs488081 | 107212100 | rs565438 | 1.000 |
| 11         | 108419593 | rs1396915 | 108420513 | rs12576077 | 0.873 |
| 11         | 109727259 | rs17111116 | 109803757 | rs4753891 | 0.401 |
| 11         | 109727259 | rs17111116 | 109809813 | rs7121928 | 0.399 |
| 11         | 109803757 | rs4753891 | 109809813 | rs7121928 | 0.890 |
| 11         | 109862212 | rs10891124 | 109862633 | rs11213434 | 0.739 |
| 11         | 110113005 | rs7121407 | 110116860 | rs7107797 | 0.699 |
| 11         | 111044537 | rs4630327 | 111130295 | rs4936678 | 0.288 |
| 11         | 112348635 | rs10502161 | 112384205 | rs4595579 | 0.876 |
| 11         | 112348635 | rs10502161 | 112525792 | rs4366519 | 0.319 |
| 11         | 114169861 | rs10502193 | 114244549 | rs17117693 | 0.526 |
| 11         | 11528019 | rs2512160 | 115742992 | rs488435 | 0.369 |
| 11         | 116220128 | rs11221244 | 116576067 | rs664971 | 0.261 |
| 11         | 116361852 | rs588918 | 116413493 | rs7115242 | 0.661 |
| 11         | 116361852 | rs588918 | 116448564 | rs1351452 | 0.978 |
| 11         | 116361852 | rs588918 | 116576580 | rs1242229 | 0.828 |
| 11         | 116361852 | rs588918 | 116576067 | rs664971 | 0.230 |
| 11         | 116413469 | rs7115242 | 116448564 | rs1351452 | 0.689 |
| 11         | 116413469 | rs7115242 | 116576580 | rs1242229 | 0.730 |
| 11         | 11643864 | rs1351452 | 116576580 | rs1242229 | 0.850 |
| 11         | 116448564 | rs1351452 | 116576067 | rs664971 | 0.232 |
| 11         | 116567580 | rs1242229 | 116576067 | rs664971 | 0.227 |
| 11         | 118226208 | rs4938565 | 118235879 | rs7933007 | 0.918 |
| 11         | 119411118 | rs1530919 | 119433098 | rs1545509 | 0.817 |
| 11         | 119411118 | rs1530919 | 119434655 | rs10444338 | 0.662 |
| 11         | 119433098 | rs1545509 | 119434655 | rs10444338 | 0.770 |
| 11         | 119453342 | rs1551238 | 119477197 | rs6589801 | 0.455 |
| 11         | 119453342 | rs1551238 | 119506905 | rs670855 | 0.232 |
|   | rs1551238  | rs17818498 | rs16930743 | rs10744613 | rs10894592 | rs10790558 | rs6488806 | rs1583124 | rs17311303 | rs10892714 | rs7102292 | rs6589973 | rs10790558 | rs2724588 | rs494965 | rs1094126 | rs504990 | rs691570 | rs1793220 | rs9633971 | rs1824832 | rs4540845 | rs515639 | rs523169 | rs10744613 | rs1824832 | rs494965 | rs1939988 | rs749513 | rs681296 | rs1793220 | rs9633971 | rs523169 | rs1824832 | rs1939988 |
|---|-----------|------------|------------|------------|------------|------------|-----------|-----------|------------|------------|-----------|------------|------------|------------|-----------|-----------|------------|-----------|------------|------------|-----------|-----------|------------|-----------|-----------|-----------|------------|-----------|-----------|------------|-----------|-----------|------------|-----------|-----------|
| Chromosome | SNP ID     | rsID       | Distance (Kb) | p-value |
|-----------|------------|------------|---------------|---------|
| 12        | 23626010   | rs11046989 | 23632891      | 0.842   |
| 12        | 26208437   | rs7300697  | 26229561      | 0.925   |
| 12        | 26208437   | rs7300697  | 26229632      | 0.917   |
| 12        | 26229561   | rs10842688 | 26229632      | 0.992   |
| 12        | 26504908   | rs11048530 | 26520918      | 0.566   |
| 12        | 26682161   | rs7972648  | 26685022      | 0.865   |
| 12        | 28226189   | rs7294486  | 28423261      | 100.00  |
| 12        | 28876460   | rs1480636  | 28877817      | 0.992   |
| 12        | 28876460   | rs1480636  | 2887817       | 0.461   |
| 12        | 29081528   | rs4931135  | 29119551      | 0.400   |
| 12        | 29818043   | rs2882467  | 29823051      | 0.584   |
| 12        | 30195234   | rs10743696 | 30204772      | 0.978   |
| 12        | 30446335   | rs1480636  | 30481442      | 0.454   |
| 12        | 32644486   | rs10844251 | 32717095      | 0.359   |
| 12        | 38943492   | rs4293189  | 39028521      | 0.420   |
| 12        | 40411394   | rs7316844  | 40413042      | 0.977   |
| 12        | 40413042   | rs1466790  | 40413058      | 0.425   |
| 12        | 40413058   | rs1466791  | 40413058      | 0.404   |
| 12        | 40640896   | rs1234032  | 40872206      | 0.453   |
| 12        | 40850256   | rs12371615 | 40872206      | 0.253   |
| 12        | 40850256   | rs12371615 | 41128742      | 0.751   |
| 12        | 40872206   | rs1238290  | 41128742      | 0.251   |
| 12        | 41661598   | rs7308182  | 41715122      | 0.204   |
| 12        | 42797754   | rs10506235 | 42888643      | 0.425   |
| 12        | 42797754   | rs10506235 | 42890075      | 0.905   |
| 12        | 42888643   | rs17094231 | 42890075      | 0.515   |
| 12        | 42888643   | rs17094231 | 43088189      | 0.451   |
| 12        | 43605390   | rs17095247 | 43989972      | 0.687   |
| 12        | 45214660   | rs17096991 | 45231962      | 0.869   |
| 12        | 45214660   | rs17096991 | 45258412      | 0.946   |
| 12        | 45231962   | rs17121412 | 45258412      | 0.811   |
| 12        | 46291715   | rs668968   | 46317652      | 0.458   |
| 12        | 46788841   | rs17122666 | 46812979      | 1.000   |
| 12        | 49214148   | rs4768887  | 49253045      | 1.000   |
| 12        | 49214148   | rs4768887  | 49374124      | 0.448   |
| 12        | 49253045   | rs7301125  | 49374124      | 0.448   |
| 12        | 51344781   | rs1994516  | 51368520      | 0.674   |
| 12        | 56754430   | rs2720174  | 57062804      | 0.202   |
| Chr | SNPs | rsID 1 | rsID 2 | rsID 3 | p-value |
|-----|------|--------|--------|--------|---------|
| 12  | 57849389 | rs10877221 | 57865135 | rs10877232 | 0.847 |
| 12  | 57849389 | rs10877221 | 57896472 | rs10877268 | 0.846 |
| 12  | 57849389 | rs10877221 | 58062330 | rs10877268 | 0.451 |
| 12  | 57865135 | rs10877232 | 57896472 | rs10877268 | 0.219 |
| 12  | 57865135 | rs10877232 | 58062330 | rs10877268 | 0.887 |
| 12  | 57865135 | rs10877232 | 58087199 | rs276056  | 0.429 |
| 12  | 58062330 | rs10877268 | 58087199 | rs276056  | 0.207 |
| 12  | 58300154 | rs17122718 | 58300154 | rs17122785 | 0.965 |
| 12  | 60088543 | rs1516032  | 60110245 | rs10877662 | 0.870 |
| 12  | 60682041 | rs7963802  | 60780616 | rs11174316 | 0.202 |
| 12  | 60682041 | rs7963802  | 60825121 | rs11174347 | 0.965 |
| 12  | 66820607 | rs2216164  | 66823141 | rs2193048  | 0.421 |
| 12  | 66820607 | rs2216164  | 66830897 | rs2870953  | 0.421 |
| 12  | 66820607 | rs2216164  | 66867288 | rs10878779 | 0.423 |
| 12  | 66820607 | rs2216164  | 66917055 | rs734871   | 0.200 |
| 12  | 66905871 | rs11570915 | 66918123 | rs17700390 | 0.909 |
| 12  | 71360679 | rs1807989  | 71377874 | rs11179324 | 0.913 |
| 12  | 73381431 | rs7314330  | 73394160 | rs7138969  | 0.575 |
| 12  | 73604536 | rs10785156 | 73708472 | rs10506678 | 0.529 |
| 12  | 74375206 | rs10879961 | 74375460 | rs7969436  | 0.749 |
| 12  | 75222674 | rs7962515  | 75378005 | rs10778674 | 0.245 |
| 12  | 78318095 | rs1405493  | 78331410 | rs7315638  | 0.938 |
| 12  | 78318095 | rs1405493  | 78347982 | rs2251214  | 0.577 |
| 12  | 78318095 | rs1405493  | 78446450 | rs7138252  | 0.610 |
| 12  | 78331410 | rs7315638  | 78347982 | rs2251214  | 0.621 |
| 12  | 78331410 | rs7315638  | 78446450 | rs7138252  | 0.657 |
| 12  | 78347982 | rs2251214  | 78446450 | rs7138252  | 0.533 |
| 12  | 78455616 | rs11114162 | 78828941 | rs1463228  | 0.235 |
| 12  | 79247890 | rs1451098  | 79281780 | rs896202   | 0.536 |
| 12  | 79247890 | rs1451098  | 79330649 | rs2717473  | 0.374 |
| 12  | 79281780 | rs896202   | 79330649 | rs2717473  | 0.737 |
| 12  | 80017957 | rs12301355 | 80018383 | rs12296937 | 0.953 |
| Locus 1                  | Locus 2                  | Locus 3                  | Locus 4                  | p-value |
|-------------------------|-------------------------|-------------------------|-------------------------|---------|
| rs10506856              | rs7137313               | rs1517815               | rs4482098               | 0.373   |
| rs7137313               | rs1517815               | rs4482098               | rs7484818               | 0.260   |
| rs1517815               | rs2113049               | rs2115436               | rs10506856              | 0.715   |
| rs1517815               | rs2113049               | rs2115436               | rs7137313               | 0.254   |
| rs4482098               | rs1517815               | rs2113049               | rs7137313               | 0.376   |
| rs7484818               | rs2113049               | rs2115436               | rs1517815               | 0.343   |
| rs1115730               | rs2113049               | rs2115436               | rs1517815               | 0.458   |
| rs7959848               | rs2113049               | rs2115436               | rs1517815               | 0.344   |
| rs1115730               | rs2113049               | rs2115436               | rs1517815               | 0.975   |
| rs7959848               | rs2113049               | rs2115436               | rs1517815               | 0.242   |
| rs12581616              | rs12320923              | rs12313738              | rs17011775              | 0.892   |
| rs12581616              | rs12320923              | rs12313738              | rs17011775              | 0.990   |
| rs12581616              | rs12320923              | rs12313738              | rs17011775              | 1.000   |
| rs12581616              | rs12320923              | rs12313738              | rs17011775              | 0.950   |
| rs12581616              | rs12320923              | rs12313738              | rs17011775              | 0.939   |
| rs12581616              | rs12320923              | rs12313738              | rs17011775              | 0.990   |
| rs12581616              | rs12320923              | rs12313738              | rs17011775              | 1.000   |
| rs12581616              | rs12320923              | rs12313738              | rs17011775              | 0.950   |
| rs12581616              | rs12320923              | rs12313738              | rs17011775              | 0.939   |
| rs12581616              | rs12320923              | rs12313738              | rs17011775              | 1.000   |
| rs12581616              | rs12320923              | rs12313738              | rs17011775              | 0.950   |
| rs12581616              | rs12320923              | rs12313738              | rs17011775              | 0.939   |
| rs12581616              | rs12320923              | rs12313738              | rs17011775              | 1.000   |
| rs12581616              | rs12320923              | rs12313738              | rs17011775              | 0.950   |
| rs12581616              | rs12320923              | rs12313738              | rs17011775              | 0.939   |
| rs12581616              | rs12320923              | rs12313738              | rs17011775              | 1.000   |
|CHR| RS1      | RS2      | RS3      | P-value   |
|----|---------|---------|---------|-----------|
| 12 | 83181851| rs4491329| 83183659| rs11116280| 1.000     |
| 12 | 83181851| rs4491329| 83184837| rs12313738| 1.000     |
| 12 | 83181851| rs4491329| 83208883| rs7973519  | 0.950     |
| 12 | 83183659| rs11116280| 83184837| rs12313738| 1.000     |
| 12 | 83183659| rs11116280| 83208883| rs7973519  | 0.950     |
| 12 | 83184837| rs12313738| 83208883| rs7973519  | 0.950     |
| 12 | 84191889| rs7486001| 84314940| rs1398440  | 0.306     |
| 12 | 84191889| rs7486001| 84334038| rs1398442  | 0.243     |
| 12 | 84191889| rs7486001| 84457457| rs7973519  | 0.203     |
| 12 | 84314940| rs1398440| 84334038| rs1398442  | 0.797     |
| 12 | 85651980| rs7975477| 86028234| rs1368563  | 0.224     |
| 12 | 86909836| rs10777085| 86913935| rs11104708| 0.505     |
| 12 | 91649196| rs7972216| 91658207| rs7958821  | 0.237     |
| 12 | 91551302| rs10777420| 91609585| rs2120575  | 0.290     |
| 12 | 92872354| rs7135433| 92873911| rs4761756  | 1.000     |
| 12 | 93678633| rs6538534| 93684736| rs7972350  | 0.235     |
| 12 | 93678633| rs6538534| 93702211| rs4761664  | 0.335     |
| 12 | 93678633| rs6538534| 93777015| rs10777641 | 0.282     |
| 12 | 94875228| rs4762652| 94878586| rs2043608  | 0.991     |
| 12 | 94875228| rs4762652| 94880938| rs7961807  | 0.991     |
| 12 | 94878586| rs2043608| 94880938| rs7961807  | 1.000     |
| 12 | 96582908| rs34537   | 96584094| rs34540    | 0.964     |
| 12 | 100574306| rs1110932| 100578274| rs1110939  | 1.000     |
| 12 | 102893176| rs4135081| 102972036| rs7971994  | 0.691     |
| 12 | 10293176| rs4135081| 102972036| rs7132831  | 0.691     |
| 12 | 102964551| rs7971994| 102972036| rs7132831  | 1.000     |
| 12 | 106093855| rs2178492| 106149778| rs11113221 | 0.426     |
| 12 | 106093855| rs2178492| 106201676| rs1861691  | 0.584     |
| 12 | 106127287| rs1861693| 106149778| rs11113221 | 0.220     |
| 12 | 106149778| rs11113221| 106201676| rs1861691  | 0.420     |
| 12 | 106149778| rs11113221| 106201676| rs1861691  | 0.420     |
| 12 | 106310763| rs1426463| 106311013| rs1426462  | 0.930     |
| 12 | 106857124| rs1895941| 106917975| rs12316047 | 0.757     |
| 12 | 106857124| rs1895941| 106970207| rs881512   | 0.390     |
| 12 | 106917975| rs12316047| 106970207| rs881512   | 0.447     |
| 12 | 112763094| rs4767142| 112790428| rs7138196  | 0.918     |
| 12 | 112791494| rs10850232| 112860872| rs11066834 | 0.281     |
| 12 | 112791494 | rs10850232 | 112871319 | rs9668746 | 0.236 |
| 12 | 112791494 | rs10850232 | 112875893 | rs11066850 | 0.280 |
| 12 | 112860872 | rs11066834 | 112871319 | rs9668746 | 0.963 |
| 12 | 112860872 | rs11066834 | 112875893 | rs11066850 | 1.000 |
| 12 | 112871319 | rs9668746 | 112875893 | rs11066850 | 0.963 |
| 12 | 113036063 | rs11066946 | 113037816 | rs9668746 | 1.000 |
| 12 | 113036063 | rs11066946 | 113071155 | rs10082740 | 0.654 |
| 12 | 117515417 | rs1402341 | 117556888 | rs10851005 | 0.207 |
| 12 | 120034006 | rs651221 | 120039181 | rs618201 | 0.211 |
| 12 | 120034006 | rs651221 | 120078439 | rs208290 | 0.429 |
| 12 | 120039181 | rs618201 | 120160097 | rs2567982 | 0.202 |
| 12 | 121628547 | rs11058797 | 121690655 | rs11059100 | 0.614 |
| 12 | 121628547 | rs11058797 | 121707640 | rs11059258 | 0.804 |
| 12 | 121690655 | rs11059100 | 121707640 | rs11059258 | 0.747 |
| 12 | 121913655 | rs4759438 | 121922964 | rs4759384 | 1.000 |
| 12 | 126554901 | rs10128788 | 126555865 | rs2682617 | 0.729 |
| 13 | 19482060 | rs9579762 | 19506560 | rs1543536 | 0.597 |
| 13 | 20974829 | rs9509767 | 20976174 | rs7328675 | 1.000 |
| 13 | 21111165 | rs9285177 | 21212101 | rs7323292 | 0.845 |
| 13 | 21211165 | rs9285177 | 21212101 | rs7323292 | 0.845 |
| 13 | 21423846 | rs3117948 | 21432122 | rs3117963 | 0.782 |
| 13 | 23943158 | rs1807111 | 23948923 | rs1738466 | 1.000 |
| 13 | 24589022 | rs41365447 | 24608667 | rs17081816 | 0.324 |
| 13 | 24589022 | rs41365447 | 24611522 | rs9507470 | 0.262 |
| 13 | 24611365 | rs9507469 | 24611522 | rs9507470 | 0.564 |
| 13 | 25309084 | rs9511934 | 25322692 | rs9511940 | 0.914 |
| 13 | 25492700 | rs1048789 | 25498688 | rs9512034 | 0.226 |
| 13 | 28945005 | rs2388084 | 28945180 | rs4262814 | 0.454 |
| 13 | 30760334 | rs7998271 | 30803942 | rs2056443 | 0.647 |
| 13 | 31340015 | rs623441 | 31340347 | rs622702 | 0.922 |
| 13 | 31619615 | rs2285330 | 31638925 | rs798978 | 0.214 |
| 13 | 31674603 | rs2428249 | 31685876 | rs989897 | 1.000 |
| 13 | 3304194 | rs3135611 | 33345299 | rs5008744 | 0.547 |
| 13 | 33715579 | rs9571278 | 33754295 | rs1147546 | 0.318 |
| 13 | 34224833 | rs9564625 | 34229033 | rs7334657 | 0.872 |
| 13 | 36991541 | rs1072781 | 36998807 | rs1735546 | 0.200 |
| 13 | 37033780 | rs7995907 | 37131370 | rs9566247 | 0.576 |
| 13 | 37703926 | rs2202122 | 37712629 | rs7338934 | 0.991 |
| 13 | 38484051 | rs12428445 | 38535373 | rs1536342 | 0.337 |
| 13 | 40438502 | rs4942014 | 40460786 | rs9594471 | 0.222 |
| 13 | 41831354 | rs238271 | 41862203 | rs17457561 | 0.225 |
| 13 | 41862203 | rs17457561 | 41956974 | rs4942131 | 0.512 |
| 13 | 41862203 | rs17457561 | 41958784 | rs9525630 | 0.548 |
| 13 | 41956974 | rs4942131 | 41958784 | rs9525630 | 0.989 |
| 13 | 42792796 | rs12172797 | 42807697 | rs9567151 | 1.000 |
| 13 | 41831354 | rs238271 | 41862203 | rs9594471 | 0.222 |
| 13 | 41862203 | rs17457561 | 41956974 | rs4942131 | 0.512 |
| 13 | 41862203 | rs17457561 | 41958784 | rs9525630 | 0.548 |
| 13 | 41956974 | rs4942131 | 41958784 | rs9525630 | 0.989 |
| 13 | 42792796 | rs12172797 | 42807697 | rs9567151 | 1.000 |
| 13 | 41862203 | rs17457561 | 41956974 | rs4942131 | 0.512 |
| 13 | 41862203 | rs17457561 | 41958784 | rs9525630 | 0.548 |
| 13 | 41956974 | rs4942131 | 41958784 | rs9525630 | 0.989 |
| 13 | 42792796 | rs12172797 | 42807697 | rs9567151 | 1.000 |
| 13 | 41862203 | rs17457561 | 41956974 | rs4942131 | 0.512 |
| 13 | 41862203 | rs17457561 | 41958784 | rs9525630 | 0.548 |
| 13 | 41956974 | rs4942131 | 41958784 | rs9525630 | 0.989 |
| 13 | 42792796 | rs12172797 | 42807697 | rs9567151 | 1.000 |
| 13 | 65319445 | rs957460 | 65339681 | rs4883761 | 0.661 |
| 13 | 65673401 | rs1407581 | 65689725 | rs1322735 | 0.594 |
| 13 | 65673401 | rs1407581 | 65721667 | rs4884662 | 0.327 |
| 13 | 65689725 | rs1322735 | 65721667 | rs4884662 | 0.554 |
| 13 | 65689725 | rs1322735 | 65755652 | rs10459387 | 0.283 |
| 13 | 67439378 | rs17083015 | 67503046 | rs1416138 | 0.877 |
| 13 | 67439378 | rs17083015 | 67508340 | rs4884662 | 0.327 |
| 13 | 67503046 | rs1322735 | 67521667 | rs4884662 | 0.554 |
| 13 | 67503046 | rs1322735 | 67555652 | rs10459387 | 0.283 |
| 13 | 69780707 | rs9599610 | 69780842 | rs9599611 | 0.888 |
| 13 | 69849063 | rs12859922 | 69849087 | rs12859938 | 0.673 |
| 13 | 69849063 | rs12859922 | 69862904 | rs2151491 | 0.878 |
| 13 | 69849087 | rs12859938 | 69862904 | rs2151491 | 0.629 |
| 13 | 71481059 | rs9542806 | 71486210 | rs9542808 | 0.699 |
| 13 | 71481059 | rs9542806 | 71505941 | rs1460446 | 0.489 |
| 13 | 71481059 | rs9542806 | 71517526 | rs2706411 | 0.573 |
| 13 | 71481059 | rs9542806 | 71559437 | rs1022958 | 0.357 |
| 13 | 71481059 | rs9542806 | 71570155 | rs1326683 | 0.511 |
| 13 | 71481059 | rs9542806 | 71571034 | rs9529959 | 0.312 |
| 13 | 71486210 | rs9542808 | 71505941 | rs1460446 | 0.248 |
| 13 | 71486210 | rs9542808 | 71517526 | rs2706411 | 0.710 |
| 13 | 71486210 | rs9542808 | 71570155 | rs1326683 | 0.296 |
| 13 | 71505941 | rs1460446 | 71517526 | rs2706411 | 0.280 |
| 13 | 71505941 | rs1460446 | 71559437 | rs1022958 | 0.741 |
| 13 | 71505941 | rs1460446 | 71570155 | rs1326683 | 0.601 |
| 13 | 71505941 | rs1460446 | 71571034 | rs9529959 | 0.250 |
| 13 | 71505941 | rs1460446 | 71574322 | rs17791199 | 0.201 |
| 13 | 71517526 | rs2706411 | 71559437 | rs1022958 | 0.206 |
| 13 | 71517526 | rs2706411 | 71570155 | rs1326683 | 0.381 |
| 13 | 71517526 | rs2706411 | 71571034 | rs9529959 | 0.275 |
| 13 | 71559437 | rs1022958 | 71570155 | rs1326683 | 0.682 |
| 13 | 71559437 | rs1022958 | 71571034 | rs9529959 | 0.329 |
| 13 | 71559437 | rs1022958 | 71574322 | rs17791199 | 0.248 |
| 13 | 71570155 | rs1326683 | 71571034 | rs9529959 | 0.417 |
| 13 | 71822612 | rs568474 | 71823339 | rs9599954 | 0.845 |
| 13 | 75960658 | rs2782991 | 75974819 | rs283975 | 0.825 |
| 13 | 79466358 | rs3910574 | 79500112 | rs9545302 | 0.331 |
| 13 | 80391966 | rs4379965 | 80392312 | rs4312196 | 0.718 |
| 13 | 80391966 | rs4379965 | 80394914 | rs2478216 | 0.696 |
| 13 | 80392312 | rs4312196 | 80394914 | rs2478216 | 0.968 |
| 13 | 88037911 | rs10507973 | 88039407 | rs4483720 | 0.990 |
| 13 | 88037911 | rs10507973 | 88057930 | rs4773046 | 0.263 |
| 13 | 88037911 | rs10507973 | 88067963 | rs1536355 | 0.283 |
| 13 | 88039407 | rs4483720 | 88057930 | rs4773046 | 0.256 |
| Chr | SNP1  | SNP2       | Dist1  | SNP3       | Dist2  | SNP4       | p     |
|-----|-------|------------|--------|------------|--------|------------|-------|
| 13  | 88039407 | rs4483720   | 88067963 | rs1536355  | 0.275  |
| 13  | 88057930 | rs4773046   | 88067963 | rs1536355  | 0.379  |
| 13  | 88067963 | rs1536355   | 88099356 | rs9521628  | 0.236  |
| 13  | 88073196 | rs1326426   | 88099356 | rs9521628  | 0.263  |
| 13  | 88099356 | rs9521628   | 88114373 | rs9521690  | 0.453  |
| 13  | 88099356 | rs9521628   | 88067963 | rs1536355  | 0.275  |
| 13  | 88099356 | rs9521628   | 88067963 | rs1536355  | 0.379  |
| 13  | 88114373 | rs9521690   | 88099356 | rs1536355  | 0.453  |
| 13  | 88073196 | rs1326426   | 88099356 | rs9521628  | 0.236  |
| 13  | 88099356 | rs9521628   | 88114373 | rs9521690  | 0.453  |
| 13  | 88114373 | rs9521690   | 88099356 | rs1536355  | 0.453  |
| Chromosome | Position 1 | Position 2 | Position 3 | Position 4 | R value |
|------------|------------|------------|------------|------------|---------|
| 13         | 98096810   | rs2184903  | 98103632   | rs9554486  | 0.774   |
| 13         | 98096810   | rs2184903  | 98113794   | rs4412849  | 0.899   |
| 13         | 98096810   | rs2184903  | 98120753   | rs9557025  | 0.724   |
| 13         | 98096810   | rs2184903  | 98168486   | rs3782999  | 0.404   |
| 13         | 98103632   | rs9554486  | 98113794   | rs4412849  | 0.733   |
| 13         | 98103632   | rs9554486  | 98120753   | rs9557025  | 0.788   |
| 13         | 98103632   | rs9554486  | 98168486   | rs3782999  | 0.376   |
| 13         | 98120753   | rs9557025  | 98168486   | rs3782999  | 0.409   |
| 13         | 98953078   | rs4772214  | 98988505   | rs9585118  | 0.985   |
| 13         | 98953078   | rs4772214  | 99003333   | rs9585127  | 0.310   |
| 13         | 98953078   | rs4772214  | 99065193   | rs9585127  | 0.903   |
| 13         | 98953078   | rs4772214  | 99065193   | rs9585127  | 0.321   |
| 13         | 101721943  | rs1360985  | 101724665  | rs1415057  | 0.936   |
| 13         | 101721943  | rs1360985  | 101752488  | rs1336664  | 0.938   |
| 13         | 101721943  | rs1360985  | 101752488  | rs1336664  | 0.948   |
| 13         | 103334252  | rs9558198  | 103347771  | rs16963727 | 0.762   |
| 13         | 103914442  | rs7322187  | 103921100  | rs9514269  | 0.303   |
| 13         | 103914442  | rs7322187  | 103933101  | rs9300934  | 0.587   |
| 13         | 103914442  | rs7322187  | 103933101  | rs9300934  | 0.587   |
| 13         | 103914702  | rs9586517  | 103921100  | rs9514269  | 0.303   |
| 13         | 103914702  | rs9586517  | 103933101  | rs9300934  | 0.587   |
| 13         | 103914702  | rs9586517  | 103933101  | rs9300934  | 0.587   |
| 13         | 103921100  | rs9514269  | 103933101  | rs9300934  | 0.464   |
| 13         | 103921100  | rs9514269  | 103933101  | rs9300934  | 0.421   |
| 13         | 103933101  | rs9300934  | 103938575  | rs9582875  | 0.595   |
| 13         | 103933101  | rs9300934  | 103938575  | rs9582875  | 0.890   |
| 13         | 103938575  | rs9582875  | 104019769  | rs9519381  | 0.228   |
| 13         | 104515664  | rs7139453  | 104515799  | rs7316970  | 0.912   |
| 13         | 104954122  | rs11618600 | 104968003  | rs1981272  | 0.737   |
| 13         | 105159394  | rs4523809  | 105159963  | rs9519746  | 1.000   |
| 13         | 105939350  | rs7328698  | 105939434  | rs7328882  | 0.898   |
| 13         | 106615670  | rs4772857  | 106618191  | rs1927767  | 0.281   |
| 13         | 110090045  | rs7394     | 110104108  | rs445490   | 0.225   |
| 13         | 110252125  | rs7323834  | 110254929  | rs7319972  | 0.947   |
| 13         | 110455200  | rs7317887  | 110466673  | rs8000668  | 0.234   |
| 13         | 112080916  | rs7324712  | 112101471  | rs10816    | 0.621   |
| 13         | 112080916  | rs7324712  | 112101811  | rs9550070  | 0.439   |
| 13         | 112101471  | rs10816    | 112101811  | rs9550070  | 0.784   |
| Chromosome | SNP ID | Position | Adj P |
|------------|--------|----------|-------|
| 13         | rs4907533 | 112273716 | 0.562 |
| 13         | rs9590464 | 113968129 | 0.557 |
| 14         | rs1760955 | 19961438  | 0.453 |
| 14         | rs932230  | 21536724  | 0.648 |
| 14         | rs4981415 | 21784363  | 0.299 |
| 14         | rs1710936 | 24538105  | 0.671 |
| 14         | rs1710946 | 24538105  | 0.314 |
| 14         | rs1706419 | 29749441  | 1.000 |
| 14         | rs8017055 | 33316845  | 0.274 |
| 14         | rs11622332| 36190727  | 0.743 |
| 14         | rs1710936 | 24536305  | 0.247 |
| 14         | rs1710946 | 24536305  | 0.314 |
| 14         | rs1706419 | 29749441  | 1.000 |
| 14         | rs8017055 | 33316845  | 0.274 |
| 14         | rs11622332| 36190727  | 0.743 |
| 14         | rs1710936 | 24536305  | 0.247 |
| 14         | rs1710946 | 24536305  | 0.314 |
| 14         | rs1706419 | 29749441  | 1.000 |
| 14         | rs8017055 | 33316845  | 0.274 |
| 14         | rs11622332| 36190727  | 0.743 |
14 45521429 rs1951317 45564779 rs11849729 0.450
14 45521429 rs1951317 45565893 rs9805956 0.749
14 45521429 rs1951317 45567885 rs1957190 0.628
14 45521429 rs1951317 45575579 rs4491418 0.991
14 45521429 rs1951317 45580798 rs1957187 0.548
14 45564779 rs11849729 45565893 rs9805956 0.628
14 45564779 rs11849729 45567885 rs1957190 0.800
14 45564779 rs11849729 45575579 rs4491418 0.438
14 45564779 rs11849729 45580798 rs1957187 0.877
14 45565893 rs9805956 45567885 rs1957190 0.808
14 45565893 rs9805956 45575579 rs4491418 0.738
14 45565893 rs9805956 45580798 rs1957187 0.715
14 45567885 rs1957190 45575579 rs4491418 0.616
14 45567885 rs1957190 45580798 rs1957187 0.908
14 45575579 rs4491418 45580798 rs1957187 0.536
14 49029992 rs10483556 49038646 rs8009047 0.678
14 49038646 rs8009047 49056851 rs7145941 0.244
14 51806327 rs4901265 51806518 rs4898758 0.983
14 52886261 rs1255320 52898072 rs1255281 0.873
14 55624732 rs17090962 55624828 rs17090964 1.000
14 56307190 rs12435979 56307786 rs12436671 0.883
14 56307786 rs12436671 56312173 rs198228 0.239
14 57000298 rs8021033 57000360 rs8021172 1.000
14 57000298 rs8021033 57018133 rs1152522 0.691
14 57000298 rs8021033 57068620 rs17795775 0.348
14 57000360 rs8021172 57018133 rs1152522 0.691
14 57000360 rs8021172 57068620 rs17795775 0.348
14 57018133 rs1152522 57068620 rs17795775 0.244
14 57429212 rs17093847 57429606 rs17093849 1.000
14 58447201 rs177727 58475842 rs10141742 0.341
14 58447201 rs177727 58494767 rs2882029 0.910
14 58475842 rs10141742 58494767 rs2882029 0.394
14 58740427 rs17095853 58767499 rs17833810 0.337
14 58740427 rs17095853 58794834 rs17095965 0.747
14 58740427 rs17095853 58810870 rs17096006 0.688
14 58740427 rs17095853 58817716 rs7155203 0.699
14 58740427 rs17095853 58820238 rs8181987 0.628
14 58794834 rs17095965 58810870 rs17096006 0.918
14 58794834 rs17095965 58817716 rs7155203 0.871
14 58794834 rs17095965 58820238 rs8181987 0.862
14 58810870 rs17096006 58817716 rs7155203 0.956
14 58810870 rs17096006 58820238 rs8181987 0.921
14 58817716 rs7155203 58820238 rs8181987 0.914
14 59219012 rs2182140 59496656 rs10483722 0.216
| Chromosome | SNP ID | SNP ID | SNP ID | Distance (kb) | Distance (kb) | Distance (kb) | p-value |
|------------|--------|--------|--------|---------------|---------------|---------------|---------|
| 14         | 59385633 | rs12897336 | 59394703 | 10483722 | 0.846 |
| 14         | 59385633 | rs12897336 | 59496656 | 10483722 | 0.835 |
| 14         | 59394703 | rs17310036 | 59496656 | 1018457 | 0.204 |
| 14         | 59758931 | rs186620 | 59818533 | 12323784 | 0.623 |
| 14         | 60101037 | rs10150234 | 60195789 | 4899015 | 0.376 |
| 14         | 60101037 | rs10150234 | 60228623 | 598788 | 0.273 |
| 14         | 60101037 | rs10150234 | 60486215 | 9889235 | 0.572 |
| 14         | 60101037 | rs10150234 | 60228623 | 59841000 | 0.424 |
| 14         | 60228623 | rs1018457 | 60486215 | 9889235 | 0.572 |
| 14         | 60228623 | rs1018457 | 60486215 | 9889235 | 0.572 |
| 14         | 61003344 | rs912618 | 61108248 | 9889235 | 0.572 |
| 14         | 61100961 | rs2105073 | 61108248 | 9889235 | 0.572 |
| 14         | 62711170 | rs7152965 | 62748675 | 9889235 | 0.572 |
| 14         | 63478768 | rs9323443 | 63483936 | 9889235 | 0.572 |
| 14         | 63604909 | rs1255971 | 63631077 | 9889235 | 0.572 |
| 14         | 65539347 | rs1147441 | 65587002 | 9889235 | 0.572 |
| 14         | 65824990 | rs8005105 | 65824990 | 9889235 | 0.572 |
| 14         | 6596469 | rs8020532 | 66322788 | 9889235 | 0.572 |
| 14         | 67902720 | rs8018477 | 67914548 | 9889235 | 0.572 |
| 14         | 67902720 | rs8018477 | 67914548 | 9889235 | 0.572 |
| 14         | 67914548 | rs8018477 | 67944813 | 9889235 | 0.572 |
| 14         | 68622880 | rs9323521 | 68630946 | 9889235 | 0.572 |
| 14         | 69599208 | rs149250 | 69617703 | 9889235 | 0.572 |
| 14         | 69605628 | rs150951 | 69605652 | 9889235 | 0.572 |
| 14         | 69605628 | rs150951 | 69605686 | 9889235 | 0.572 |
| 14         | 69605628 | rs150951 | 69605686 | 9889235 | 0.572 |
| 14         | 69605628 | rs150951 | 69605686 | 9889235 | 0.572 |
| 14         | 69605628 | rs150951 | 69605686 | 9889235 | 0.572 |
| 14         | 69605686 | rs150949 | 69605687 | 9889235 | 0.572 |
| 14         | 70302669 | rs4902852 | 70344430 | 9889235 | 0.572 |
| 14         | 72047594 | rs7161176 | 72077931 | 9889235 | 0.572 |
| 14         | 74235578 | rs4899530 | 74236246 | 9889235 | 0.572 |
| 14         | 74235578 | rs4899530 | 74237459 | 9889235 | 0.572 |
| 14         | 74235578 | rs4899530 | 74435482 | 9889235 | 0.572 |
| 14         | 74236246 | rs6574189 | 74374542 | 9889235 | 0.572 |
| 14         | 74236246 | rs6574189 | 74374542 | 9889235 | 0.572 |
| 14         | 74237459 | rs17782683 | 74435482 | 9889235 | 0.572 |
| 14         | 74899937 | rs12590700 | 74901110 | 9889235 | 0.572 |
| 14         | 75683431 | rs935334 | 75727223 | 9889235 | 0.572 |
| 14         | 78499684 | rs131420 | 78500344 | 9889235 | 0.572 |
| 14         | 79161922 | rs221492 | 79837480 | 9889235 | 0.572 |
| 14         | 79743567 | rs2267873 | 79813376 | 9889235 | 0.572 |
| 14         | 79743567 | rs2267873 | 79813376 | 9889235 | 0.572 |
| 14         | 79813376 | rs2295138 | 79837480 | 9889235 | 0.572 |
| Chromosome Position | SNP ID 1 | SNP ID 2 | SNP ID 3 | SNP ID 4 | r | p |
|---------------------|---------|---------|---------|---------|----|---|
| 14                 | 79813376 | rs2295138 | 79841000 | rs2160355 | 0.979 | |
| 14                 | 79837480 | rs9989235 | 79841000 | rs2160355 | 0.333 | |
| 14                 | 83979059 | rs8006640 | 83981301 | rs12883344 | 1.000 | |
| 14                 | 85288372 | rs12897255 | 85291664 | rs17730580 | 0.921 | |
| 14                 | 85288372 | rs12897255 | 85306119 | rs8003269 | 0.607 | |
| 14                 | 85291664 | rs17730580 | 85306119 | rs8003269 | 0.562 | |
| 14                 | 85291664 | rs17730580 | 85321268 | rs17736583 | 0.883 | |
| 14                 | 85291664 | rs17730580 | 85335323 | rs11851223 | 0.748 | |
| 14                 | 85306119 | rs8003269 | 85321268 | rs17736583 | 0.575 | |
| 14                 | 85306119 | rs8003269 | 8535323 | rs11851223 | 0.649 | |
| 14                 | 85321268 | rs17736583 | 8535323 | rs11851223 | 0.870 | |
| 14                 | 85796095 | rs2135102 | 85796535 | rs4899891 | 1.000 | |
| 14                 | 85796095 | rs2135102 | 85813242 | rs1505163 | 0.934 | |
| 14                 | 85796095 | rs2135102 | 85817489 | rs7144626 | 0.853 | |
| 14                 | 85796535 | rs4899891 | 85813242 | rs1505163 | 0.934 | |
| 14                 | 85796535 | rs4899891 | 85817489 | rs7144626 | 0.853 | |
| 14                 | 85813242 | rs1505163 | 85817489 | rs7144626 | 0.918 | |
| 14                 | 92140517 | rs11628803 | 92142022 | rs2146498 | 0.973 | |
| 14                 | 93846154 | rs11160168 | 93875164 | rs1950654 | 0.685 | |
| 14                 | 93846154 | rs11160168 | 93908993 | rs1016686 | 0.435 | |
| 14                 | 93846154 | rs11160168 | 93911394 | rs1243167 | 0.411 | |
| 14                 | 93875164 | rs1950654 | 93908993 | rs1016686 | 0.563 | |
| 14                 | 93875164 | rs1950654 | 93911394 | rs1243167 | 0.535 | |
| 14                 | 93908993 | rs1016686 | 93911394 | rs1243167 | 0.911 | |
| 14                 | 94019874 | rs8008729 | 94020846 | rs12589932 | 0.664 | |
| 14                 | 94019874 | rs8008729 | 94026811 | rs4900233 | 0.598 | |
| 14                 | 94019874 | rs8008729 | 94033174 | rs8012043 | 0.267 | |
| 14                 | 94020846 | rs12589932 | 94026811 | rs4900233 | 0.933 | |
| 14                 | 94020846 | rs12589932 | 94033174 | rs8012043 | 0.445 | |
| 14                 | 94026811 | rs4900233 | 94033174 | rs8012043 | 0.436 | |
| 14                 | 95247926 | rs2296311 | 95251335 | rs1984968 | 0.903 | |
| 14                 | 95518120 | rs11628024 | 95526439 | rs2369415 | 0.854 | |
| 14                 | 95518120 | rs11628024 | 95560098 | rs10149056 | 0.838 | |
| 14                 | 95526439 | rs2369415 | 95560098 | rs10149056 | 0.949 | |
| 14                 | 97689215 | rs17096516 | 97697068 | rs17096556 | 0.842 | |
| 14                 | 97775389 | rs4900391 | 97815629 | rs11846788 | 0.463 | |
| 14                 | 97833989 | rs8022910 | 97834528 | rs7142106 | 0.584 | |
| 14                 | 98039917 | rs8003296 | 98057225 | rs8022320 | 0.917 | |
| 14                 | 102481588 | rs911627 | 102482021 | rs2403107 | 0.576 | |
| 15                 | 21779413 | rs1459963 | 21780108 | rs996956 | 0.969 | |
| 15                 | 23600150 | rs4906777 | 23604395 | rs17642892 | 0.495 | |
| 15                 | 23600150 | rs4906777 | 23605988 | rs8041836 | 0.470 | |
|   | rs11636114 | rs8039354  | rs905434  | rs17642892 | rs2453518 | rs17586323 | rs958384 | rs17815905 | rs2879291 | rs11637838 | rs11639420 | rs17228227 | rs12324139 | rs905434  | rs11636114 | rs10851966 | rs11073050 | rs17228227 | rs17586323 | rs2879291 | rs17228227 | rs905434  | rs11636114 | rs2453518 | rs17586323 | rs958384 | rs17815905 | rs2879291 | rs11637838 | rs11639420 | rs17228227 | rs17586323 | rs2879291 | rs11637838 |
|---|----------|----------|----------|------------|-----------|-----------|----------|------------|-----------|------------|------------|------------|-----------|----------|----------|------------|------------|-------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
15 44023436 rs16949297 44030019 rs6493188 0.927
15 45541604 rs1390870 45584167 rs12908208 0.954
15 46999340 rs4381535 47007244 rs4303430 0.330
15 50500938 rs17614119 50652177 rs8034728 0.234
15 52310314 rs8023723 52320735 rs12439702 0.779
15 55046028 rs12900986 55201068 rs967514 0.645
15 58460982 rs9920861 58461141 rs9920823 0.907
15 60578048 rs16945167 60581199 rs885188 0.366
15 61615616 rs8025240 61675548 rs4074448 0.750
15 65272210 rs1295334 65440030 rs8042007 0.975
15 67263598 rs12438916 67288438 rs4777125 0.707
15 69537817 rs991051 69540196 rs12912393 0.964
15 69791262 rs1604335 69804834 rs17737569 0.462
15 70235165 rs16956602 70332911 rs3803388 1.000
15 70864255 rs2278543 70909026 rs4514651 0.395
15 78880032 rs11633017 78880943 rs748696 0.250
15 83294136 rs896368 83294367 rs896370 1.000
15 83814605 rs7168345 83824542 rs12913754 0.322
15 83814605 rs7168345 83860275 rs11637726 0.224
15 83814605 rs7168345 83864137 rs4842888 0.584
15 83814605 rs7168345 83865972 rs3743321 0.580
15 83814605 rs7168345 83871692 rs6496055 0.537
15 83824542 rs12913754 83860275 rs11637726 0.813
15 83824542 rs12913754 83864137 rs4842888 0.213
15 83824542 rs12913754 83865972 rs3743321 0.210
15 83824542 rs12913754 83871692 rs6496055 0.215
15 83824542 rs12913754 84034374 rs17574774 0.426
15 83860275 rs11637726 83864137 rs4842888 0.285
15 83860275 rs11637726 83865972 rs3743321 0.283
15 83860275 rs11637726 83871692 rs6496055 0.288
15 83860275 rs11637726 84034374 rs17574774 0.531
15 83864137 rs4842888 83865972 rs3743321 1.000
15 83864137 rs4842888 83871692 rs6496055 0.936
15 83865972 rs3743321 83871692 rs6496055 0.935
15 84393542 rs4887511 84415671 rs11630546 0.594
15 84756735 rs1835629 84865093 rs12591257 0.813
15 84815653 rs7174126 84815973 rs9920671 0.944
15 86204840 rs1560977 86205395 rs3803409 0.940
15 87790545 rs11073865 87790819 rs11073866 0.903
15 87943291 rs8039002 87969112 rs894157 0.874
15 89918244 rs8028098 89962969 rs12148290 0.207
15 90571510 rs12440538 90573772 rs11632145 1.000
15 94583487 rs1964412 94589026 rs11856264 0.849
15 97921908 rs4424892 98065263 rs325406 0.312
| SNP | rsID  | Haplotype 1 | Haplotype 2 | Haplotype 3 | Haplotype 4 | Haplotype 5 | Haplotype 6 | Haplotype 7 | Haplotype 8 | Haplotype 9 | Haplotype 10 | Haplotype 11 | Haplotype 12 | Haplotype 13 | Haplotype 14 | Haplotype 15 |
|-----|-------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 16  | 22139927 | rs6497580   | 22284504    | rs4468604   | 0.480       |
| 16  | 23633222 | rs17807642  | 23647489    | rs192188    | 0.276       |
| 16  | 26006106 | rs11074748  | 26007616    | rs4520841   | 0.886       |
| 16  | 26870497 | rs4638587   | 26915707    | rs9674123   | 0.479       |
| 16  | 26870497 | rs4638587   | 26918208    | rs11646543  | 0.479       |
| 16  | 26870497 | rs4638587   | 26919173    | rs16976487  | 1.000       |
| 16  | 26915707 | rs9674123   | 26919173    | rs16976487  | 1.000       |
| 16  | 26918208 | rs11646543  | 26919173    | rs16976487  | 1.000       |
| 16  | 26982794 | rs12926642  | 26982895    | rs12927904  | 1.000       |
| 16  | 27089322 | rs17638800  | 27089979    | rs8045153   | 1.000       |
| 16  | 34240588 | rs2623779   | 34679872    | rs8054993   | 0.534       |
| 16  | 48077446 | rs193915    | 48078375    | rs193910    | 0.955       |
| 16  | 48178188 | rs7204390   | 48178489    | rs1420683   | 0.822       |
| 16  | 48781884 | rs8057842   | 48817077    | rs4490002   | 0.658       |
| 16  | 49271530 | rs7202124   | 49280575    | rs1981760   | 0.772       |
| 16  | 49271530 | rs7202124   | 49281588    | rs9933594   | 0.772       |
| 16  | 49271530 | rs7202124   | 49282290    | rs4785448   | 0.817       |
| 16  | 49271530 | rs7202124   | 49308676    | rs751271    | 0.529       |
| 16  | 49280575 | rs1981760   | 49281588    | rs9933594   | 1.000       |
| 16  | 49280575 | rs1981760   | 49282290    | rs4785448   | 0.873       |
| 16  | 49280575 | rs1981760   | 49303084    | rs1861759   | 0.228       |
| 16  | 49280575 | rs1981760   | 49308676    | rs751271    | 0.575       |
| 16  | 49281588 | rs9933594   | 49282290    | rs4785448   | 0.873       |
| 16  | 49281588 | rs9933594   | 49303084    | rs1861759   | 0.228       |
| 16  | 49281588 | rs9933594   | 49308676    | rs751271    | 0.575       |
| 16  | 49282290 | rs4785448   | 49303084    | rs1861759   | 0.205       |
| 16  | 49282290 | rs4785448   | 49308676    | rs751271    | 0.489       |
| 16  | 49303084 | rs1861759   | 49308676    | rs751271    | 0.272       |
| 16  | 51128937 | rs4783780   | 51156689    | rs4784227   | 0.309       |
| 16  | 51128937 | rs4783780   | 51206232    | rs3112609   | 0.386       |
| 16  | 51156689 | rs4784227   | 51206232    | rs3112609   | 0.284       |
| 16  | 53021837 | rs9972796   | 53030284    | rs1420284   | 0.681       |
| 16  | 53866889 | rs7197650   | 53872091    | rs12932846  | 0.337       |
| 16  | 54648394 | rs8051382   | 54690175    | rs2008084   | 0.752       |
| 16  | 54648394 | rs8051382   | 54831387    | rs1382362   | 0.593       |
| 16  | 54690175 | rs2008084   | 54831387    | rs1382362   | 0.501       |
| 16  | 54813457 | rs10521336  | 54819250    | rs11644504  | 0.637       |
| 16  | 56783625 | rs2731757   | 56791457    | rs2731740   | 0.881       |
| 16  | 58124917 | rs7191772   | 58129174    | rs11863562  | 0.801       |
| 16  | 60162149 | rs2407919   | 60187711    | rs8058822   | 0.203       |
| 16  | 61131967 | rs2938719   | 61137678    | rs3011235   | 0.691       |
| 16  | 63378852 | rs1424000   | 63380457    | rs2874148   | 0.216       |
| 16  | 63532702 | rs35164     | 63533057    | rs35162     | 0.986       |
| SNP          | Allele | Chromosome | Start Site | End Site | Distance |
|--------------|--------|------------|------------|----------|----------|
| 63947553     | rs9939590| 63963161   | rs9929092  | 0.929    |
| 64486360     | rs4785875| 64486648   | rs11075598 | 1.000    |
| 64701645     | rs12598065| 64811279   | rs2549491  | 0.214    |
| 69349418     | rs16970513| 69364175   | rs4985364  | 0.574    |
| 69349418     | rs16970513| 69381134   | rs8060947  | 0.787    |
| 69349418     | rs16970513| 69391450   | rs9931380  | 0.592    |
| 69349418     | rs16970513| 69606892   | rs6499386  | 0.223    |
| 63964175     | rs4985364| 69381134   | rs8060947  | 0.721    |
| 69364175     | rs4985364| 69391450   | rs9931380  | 0.664    |
| 69381134     | rs8060947| 69391450   | rs9931380  | 0.785    |
| 70274906     | rs8048210| 70346331   | rs2036338  | 0.968    |
| 72259525     | rs8056327| 72711184   | rs764255   | 0.888    |
| 72340097     | rs417940 | 72341917   | rs4887925  | 0.275    |
| 72646583     | rs9932030| 72656475   | rs8051876  | 0.618    |
| 74555050     | rs1018097| 74566842   | rs6564297  | 0.429    |
| 74555050     | rs1018097| 74579010   | rs8055817  | 0.734    |
| 74566842     | rs6564297| 74579010   | rs8055817  | 0.374    |
| 74691349     | rs13337655| 74717773   | rs12149144 | 0.599    |
| 74691349     | rs13337655| 74720494   | rs4888477  | 0.546    |
| 74691349     | rs13337655| 74720684   | rs4888478  | 0.546    |
| 74691349     | rs13337655| 74726944   | rs724246   | 0.534    |
| 74691349     | rs13337655| 7475947    | rs10871321 | 0.532    |
| 74691349     | rs13337655| 74773650   | rs41526748 | 0.542    |
| 74691349     | rs13337655| 74792527   | rs12597760 | 0.433    |
| 74691349     | rs13337655| 74793211   | rs3851752  | 0.313    |
| 74717773     | rs12149144| 74720494   | rs4888477  | 0.899    |
| 74717773     | rs12149144| 74720684   | rs4888478  | 0.899    |
| 74717773     | rs12149144| 74726944   | rs724246   | 0.915    |
| 74717773     | rs12149144| 7475947    | rs10871321 | 0.874    |
| 74717773     | rs12149144| 74773650   | rs41526748 | 0.825    |
| 74717773     | rs12149144| 74792527   | rs12597760 | 0.713    |
| 74717773     | rs12149144| 74793211   | rs3851752  | 0.543    |
| 74717773     | rs12149144| 74793563   | rs11863642 | 0.559    |
| 74720494     | rs4888477| 74720684   | rs4888478  | 1.000    |
| 74720494     | rs4888477| 74726944   | rs724246   | 0.983    |
| 74720494     | rs4888477| 7475947    | rs10871321 | 0.881    |
| 74720494     | rs4888477| 74773650   | rs41526748 | 0.831    |
| 74720494     | rs4888477| 74792527   | rs12597760 | 0.722    |
| 74720494     | rs4888477| 74793211   | rs3851752  | 0.572    |
| 74720494     | rs4888477| 74793563   | rs11863642 | 0.587    |
| 74720494     | rs4888477| 74793613   | rs11149879 | 0.733    |
| 74720684     | rs4888478| 74726944   | rs724246   | 0.983    |
| 74720684     | rs4888478| 7475947    | rs10871321 | 0.881    |
| 74720684     | rs4888478| 74773650   | rs41526748 | 0.831    |
| 16 | 74720684 | rs4888478 | 74792527 | rs12597760 | 0.722 |
| 16 | 74720684 | rs4888478 | 74793211 | rs3851752 | 0.572 |
| 16 | 74720684 | rs4888478 | 74793563 | rs11863642 | 0.587 |
| 16 | 74720684 | rs4888478 | 74793613 | rs11149879 | 0.733 |
| 16 | 74720684 | rs4888478 | 74794055 | rs41515248 | 0.737 |
| 16 | 74726944 | rs724246 | 74757947 | rs10871321 | 0.897 |
| 16 | 74726944 | rs724246 | 74773650 | rs41526748 | 0.846 |
| 16 | 74726944 | rs724246 | 74792527 | rs12597760 | 0.736 |
| 16 | 74726944 | rs724246 | 74793211 | rs3851752 | 0.572 |
| 16 | 74726944 | rs724246 | 74793563 | rs11863642 | 0.601 |
| 16 | 74726944 | rs724246 | 74793613 | rs11149879 | 0.601 |
| 16 | 74726944 | rs724246 | 74794055 | rs41515248 | 0.751 |
| 16 | 74757947 | rs10871321 | 74773650 | rs41526748 | 0.736 |
| 16 | 74757947 | rs10871321 | 74792527 | rs12597760 | 0.826 |
| 16 | 74757947 | rs10871321 | 74793211 | rs3851752 | 0.637 |
| 16 | 74757947 | rs10871321 | 74793613 | rs11149879 | 0.837 |
| 16 | 74757947 | rs10871321 | 74794055 | rs41515248 | 0.946 |
| 16 | 74757947 | rs10871321 | 74794135 | rs4888483 | 0.637 |
| 16 | 74757947 | rs10871321 | 74794288 | rs4888484 | 0.637 |
| 16 | 74773650 | rs41526748 | 74792527 | rs12597760 | 0.843 |
| 16 | 74773650 | rs41526748 | 74793211 | rs3851752 | 0.649 |
| 16 | 74773650 | rs41526748 | 74793563 | rs11863642 | 0.665 |
| 16 | 74773650 | rs41526748 | 74793613 | rs11149879 | 0.857 |
| 16 | 74773650 | rs41526748 | 74794055 | rs41515248 | 0.860 |
| 16 | 74773650 | rs41526748 | 74794135 | rs4888483 | 0.860 |
| 16 | 74773650 | rs41526748 | 74794288 | rs4888484 | 0.860 |
| 16 | 74792527 | rs12597760 | 74793211 | rs3851752 | 0.720 |
| 16 | 74792527 | rs12597760 | 74793563 | rs11863642 | 0.738 |
| 16 | 74792527 | rs12597760 | 74793613 | rs11149879 | 0.946 |
| 16 | 74792527 | rs12597760 | 74794055 | rs41515248 | 0.982 |
| 16 | 74792527 | rs12597760 | 74794135 | rs4888483 | 0.720 |
| 16 | 74792527 | rs12597760 | 74794288 | rs4888484 | 0.720 |
| 16 | 74793211 | rs3851752 | 74793563 | rs11863642 | 0.983 |
| 16 | 74793211 | rs3851752 | 74793613 | rs11149879 | 0.767 |
| 16 | 74793211 | rs3851752 | 74794055 | rs41515248 | 0.736 |
| 16 | 74793211 | rs3851752 | 74794135 | rs4888483 | 0.983 |
| 16 | 74793563 | rs11863642 | 74793563 | rs11149879 | 0.755 |
| 16 | 74793563 | rs11863642 | 74794055 | rs41515248 | 0.754 |
| 16 | 74793563 | rs11863642 | 74794135 | rs4888483 | 0.983 |
| 16 | 74793563 | rs11863642 | 74794288 | rs4888484 | 0.983 |
| 16 | 74793613 | rs11149879 | 74794055 | rs41515248 | 0.964 |
| Chrom | Start | End | rsID | Start | End | rsID | p-value |
|-------|-------|-----|------|-------|-----|------|---------|
| 16    | 74793613 | 74794135 | rs11149879 | 74794288 | rs4888483 | 0.767 |
| 16    | 74793613 | 74794135 | rs41515248 | 74794288 | rs4888483 | 0.736 |
| 16    | 74794055 | 74794288 | rs41515248 | 74794288 | rs4888483 | 0.736 |
| 16    | 74794135 | 74794288 | rs4888483 | 74794288 | rs4888483 | 1.000 |
| 16    | 77218875 | 77223653 | rs2738577 | 77223653 | rs1981881 | 0.336 |
| 16    | 77218875 | 77236228 | rs2738577 | 77236228 | rs2550626 | 0.245 |
| 16    | 78296126 | 78296335 | rs11867049 | 78296335 | rs9941279 | 0.936 |
| 16    | 78296126 | 78296335 | rs11867049 | 78296335 | rs12925930 | 0.926 |
| 16    | 78296335 | 78296335 | rs9941279 | 78296335 | rs12925930 | 1.000 |
| 16    | 78297854 | 78297854 | rs12925930 | 78297854 | rs10871375 | 0.926 |
| 16    | 80374081 | 80374740 | rs6564919 | 80374740 | rs4580153 | 1.000 |
| 16    | 80374081 | 80374740 | rs6564919 | 80374740 | rs4580153 | 0.966 |
| 16    | 80374523 | 80374740 | rs7192802 | 80374740 | rs4580153 | 1.000 |
| 16    | 80884590 | 80934373 | rs1029637 | 80934373 | rs2317841 | 0.237 |
| 16    | 81851744 | 81853239 | rs8059870 | 81853239 | rs17678609 | 0.926 |
| 16    | 82096406 | 82097934 | rs8056534 | 82097934 | rs4782539 | 0.345 |
| 17    | 1018374 | 1026950 | rs11655015 | 1026950 | rs4968174 | 0.387 |
| 17    | 14461941 | 14519718 | rs11654944 | 14519718 | rs11649745 | 0.259 |
| 17    | 14482865 | 14519718 | rs11652573 | 14519718 | rs11649745 | 0.677 |
| 17    | 14461941 | 14519718 | rs11649994 | 14519718 | rs11649745 | 0.223 |
| 17    | 14482865 | 14519718 | rs11652573 | 14519718 | rs11649745 | 0.291 |
| 17    | 19486692 | 19535432 | rs4925026 | 19535432 | rs4925041 | 0.930 |
| 17    | 19572507 | 19586530 | rs7214841 | 19586530 | rs7220491 | 0.422 |
| 17    | 19937021 | 20155941 | rs11117502 | 20155941 | rs9929301 | 0.486 |
| 17    | 28716561 | 28727436 | rs16968252 | 28727436 | rs2347154 | 0.375 |
| 17    | 29353806 | 29361439 | rs4239243 | 29361439 | rs4513143 | 0.443 |
| 17    | 29734011 | 29734719 | rs16969603 | 29734719 | rs11867951 | 0.955 |
| 17    | 29734011 | 29741828 | rs16969603 | 29741828 | rs16969695 | 0.846 |
| 17    | 29734719 | 29741828 | rs11867951 | 29741828 | rs16969695 | 0.887 |
| 17    | 29735833 | 29755162 | rs159304 | 29755162 | rs212498 | 0.216 |
| 17    | 30039109 | 30050692 | rs4795972 | 30050692 | rs4795980 | 0.249 |
| 17    | 30039109 | 30076771 | rs4795972 | 30076771 | rs2240667 | 0.203 |
| 17    | 30050692 | 30076771 | rs4795980 | 30076771 | rs2240667 | 0.489 |
| 17    | 30050692 | 30092666 | rs4795980 | 30092666 | rs4795043 | 0.425 |
| 17    | 30076771 | 30092666 | rs2240667 | 30092666 | rs4795043 | 0.657 |
| 17    | 30820998 | 30830445 | rs4239251 | 30830445 | rs8066132 | 0.746 |
| 17    | 36712002 | 36725455 | rs1001191 | 36725455 | rs12449671 | 0.561 |
| Chromosome | rsID | Marker 1  | Marker 2  | Marker 3  | p-value |
|------------|------|----------|----------|----------|---------|
| 17         | 38441868 | rs9911630 | rs4793197 | rs4793197 | 0.481   |
| 17         | 38441868 | rs9911630 | rs4793197 | rs99916   | 0.966   |
| 17         | 38441868 | rs9911630 | rs8176126 | rs9911630 | 0.484   |
| 17         | 38441868 | rs9911630 | rs4520874 | rs9911630 | 0.482   |
| 17         | 3845428  | rs4793197 | rs799916  | rs9911630 | 0.537   |
| 17         | 3845428  | rs4793197 | rs8176126 | rs9911630 | 0.990   |
| 17         | 3845428  | rs4793197 | rs4520874 | rs9911630 | 0.482   |
| 17         | 38512575 | rs8176126 | rs9646413 | rs9911630 | 0.906   |
| 17         | 38512575 | rs8176126 | rs4793197 | rs9911630 | 0.949   |
| 17         | 38512575 | rs8176126 | rs9646413 | rs9911630 | 0.491   |
| 17         | 38771048 | rs4520874 | rs9646413 | rs9911630 | 0.494   |
| 17         | 38771048 | rs4520874 | rs9646413 | rs9911630 | 0.539   |
| 17         | 38771048 | rs4520874 | rs9646413 | rs9911630 | 0.533   |
| 17         | 38773860 | rs4793229 | rs9646413 | rs9911630 | 0.541   |
| 17         | 38773860 | rs4793229 | rs9646413 | rs9911630 | 0.541   |
| 17         | 38773860 | rs4793229 | rs9646413 | rs9911630 | 0.534   |
| 17         | 40487006 | rs4793172 | rs1053733 | rs9911630 | 0.649   |
| 17         | 42276896 | rs2083798 | rs2083797 | rs9911630 | 0.801   |
| 17         | 42276896 | rs2083798 | rs2083797 | rs9911630 | 0.489   |
| 17         | 42276928 | rs2083799 | rs2083797 | rs9911630 | 0.369   |
| 17         | 43255967 | rs17035   | rs1695325 | rs9911630 | 0.267   |
| 17         | 43595262 | rs2021752 | rs3792692 | rs9911630 | 1.000   |
| 17         | 43595262 | rs2021752 | rs3792692 | rs9911630 | 0.929   |
| 17         | 43595262 | rs2021752 | rs3792692 | rs9911630 | 0.929   |
| 17         | 43610091 | rs3792692 | rs3897986 | rs9911630 | 0.385   |
| 17         | 43610091 | rs3792692 | rs3897986 | rs9911630 | 0.492   |
| 17         | 43610091 | rs3792692 | rs3897986 | rs9911630 | 0.929   |
| 17         | 43610091 | rs3792692 | rs3897986 | rs9911630 | 0.929   |
| 17         | 43616538 | rs3897986 | rs3897986 | rs9911630 | 1.000   |
| 17         | 47584392 | rs16951051 | rs10514999 | rs9911630 | 0.438   |
| 17         | 47750538 | rs10515007 | rs1386269 | rs9911630 | 0.748   |
| 17         | 47750538 | rs10515007 | rs1386269 | rs9911630 | 0.385   |
| 17         | 47762776 | rs1386269 | rs11080004 | rs9911630 | 0.492   |
| 17         | 47862591 | rs4794347 | rs4794363 | rs9911630 | 0.352   |
| 17         | 47862591 | rs4794347 | rs2319988 | rs9911630 | 0.351   |
| 17         | 47862591 | rs4794347 | rs2467486 | rs9911630 | 0.342   |
| 17         | 47862591 | rs4794347 | rs2452247 | rs9911630 | 0.284   |
| Chromosome | SNP1   | SNP2   | SNP3   | SNP4   | P-Value |
|------------|--------|--------|--------|--------|---------|
| 17         | 47938582 | rs350011 | 47941885 | rs350016 | 0.975 |
| 17         | 47938582 | rs350011 | 48034698 | rs4794363 | 0.349 |
| 17         | 47938582 | rs350011 | 48040637 | rs954506 | 0.349 |
| 17         | 47938582 | rs350011 | 48040777 | rs2319988 | 0.347 |
| 17         | 47938582 | rs350011 | 48051058 | rs1492198 | 0.327 |
| 17         | 47938582 | rs350011 | 48058862 | rs2467486 | 0.308 |
| 17         | 47938582 | rs350011 | 48072908 | rs1492227 | 0.320 |
| 17         | 47941885 | rs350016 | 48034698 | rs4794363 | 0.380 |
| 17         | 47941885 | rs350016 | 48040637 | rs954506 | 0.380 |
| 17         | 47941885 | rs350016 | 48040777 | rs2319988 | 0.378 |
| 17         | 47941885 | rs350016 | 48051058 | rs1492198 | 0.356 |
| 17         | 47941885 | rs350016 | 48058862 | rs2467486 | 0.338 |
| 17         | 47941885 | rs350016 | 48072908 | rs1492227 | 0.350 |
| 17         | 47941885 | rs350016 | 48093793 | rs2452248 | 0.325 |
| 17         | 47941885 | rs350016 | 48094974 | rs1907667 | 0.325 |
| 17         | 48034698 | rs4794363 | 48040637 | rs954506 | 1.000 |
| 17         | 48034698 | rs4794363 | 48040777 | rs2319988 | 1.000 |
| 17         | 48034698 | rs4794363 | 48051058 | rs1492198 | 0.988 |
| 17         | 48034698 | rs4794363 | 48058862 | rs2467486 | 0.963 |
| 17         | 48034698 | rs4794363 | 48072908 | rs1492227 | 0.976 |
| 17         | 48034698 | rs4794363 | 48093607 | rs2452247 | 0.856 |
| 17         | 48034698 | rs4794363 | 48093793 | rs2452248 | 0.877 |
| 17         | 48034698 | rs4794363 | 48094974 | rs1907667 | 0.877 |
| 17         | 48034698 | rs4794363 | 48096000 | rs2452249 | 0.866 |
| 17         | 48040637 | rs954506 | 48040777 | rs2319988 | 1.000 |
| 17         | 48040637 | rs954506 | 48051058 | rs1492198 | 0.988 |
| 17         | 48040637 | rs954506 | 48058862 | rs2467486 | 0.963 |
| 17         | 48040637 | rs954506 | 48072908 | rs1492227 | 0.976 |
| 17         | 48040637 | rs954506 | 48093607 | rs2452247 | 0.856 |
| 17         | 48040637 | rs954506 | 48093793 | rs2452248 | 0.877 |
| 17         | 48040637 | rs954506 | 48094974 | rs1907667 | 0.877 |
| 17         | 48040637 | rs954506 | 48096000 | rs2452249 | 0.866 |
| 17         | 48040637 | rs954506 | 48121473 | rs10515023 | 0.335 |
| 17         | 48040777 | rs2319988 | 48051058 | rs1492198 | 0.988 |
| 17         | 48040777 | rs2319988 | 48058862 | rs2467486 | 0.963 |
| 17         | 48040777 | rs2319988 | 48072908 | rs1492227 | 0.976 |
| 17         | 48040777 | rs2319988 | 48093607 | rs2452247 | 0.856 |
| 17         | 48040777 | rs2319988 | 48093793 | rs2452248 | 0.876 |
| 17         | 48040777 | rs2319988 | 48094974 | rs1907667 | 0.876 |
| 17         | 48040777 | rs2319988 | 48096000 | rs2452249 | 0.866 |
| 17         | 48040777 | rs2319988 | 48121473 | rs10515023 | 0.334 |
| SN | rsID       | rsID       | rsID       | p-value  |
|----|------------|------------|------------|----------|
| 48051058 | rs1492198  | 48058862   | rs2467486  | 0.976    |
| 48051058 | rs1492198  | 48072908   | rs1492227  | 0.988    |
| 48051058 | rs1492198  | 48093607   | rs2452247  | 0.868    |
| 48051058 | rs1492198  | 48093793   | rs2452248  | 0.899    |
| 48051058 | rs1492198  | 48094974   | rs1907667  | 0.899    |
| 48051058 | rs1492198  | 48096000   | rs2452249  | 0.878    |
| 48051058 | rs1492198  | 48121473   | rs10515023 | 0.341    |
| 48051058 | rs1492198  | 48192021   | rs4451995  | 0.316    |
| 48058862 | rs2467486  | 48072908   | rs1492227  | 0.988    |
| 48058862 | rs2467486  | 48093607   | rs2452248  | 0.865    |
| 48058862 | rs2467486  | 48093793   | rs2452248  | 0.886    |
| 48058862 | rs2467486  | 48094974   | rs1907667  | 0.886    |
| 48058862 | rs2467486  | 48096000   | rs2452249  | 0.875    |
| 48058862 | rs2467486  | 48121473   | rs10515023 | 0.325    |
| 48058862 | rs2467486  | 48192021   | rs4451995  | 0.310    |
| 48058862 | rs2467486  | 48196285   | rs11871098 | 0.318    |
| 48072908 | rs1492227  | 48093607   | rs2452248  | 0.878    |
| 48072908 | rs1492227  | 48093793   | rs2452248  | 0.899    |
| 48072908 | rs1492227  | 48094974   | rs1907667  | 0.899    |
| 48072908 | rs1492227  | 48096000   | rs2452249  | 0.889    |
| 48072908 | rs1492227  | 48121473   | rs10515023 | 0.335    |
| 48072908 | rs1492227  | 48192021   | rs4451995  | 0.323    |
| 48072908 | rs1492227  | 48196285   | rs11871098 | 0.330    |
| 48093607 | rs2452247  | 48093793   | rs2452248  | 0.977    |
| 48093607 | rs2452247  | 48094974   | rs1907667  | 0.977    |
| 48093607 | rs2452247  | 48096000   | rs2452249  | 0.966    |
| 48093607 | rs2452247  | 48121473   | rs10515023 | 0.413    |
| 48093607 | rs2452247  | 48192021   | rs4451995  | 0.449    |
| 48093607 | rs2452247  | 48196285   | rs11871098 | 0.459    |
| 48093793 | rs2452248  | 48094974   | rs1907667  | 1.000    |
| 48093793 | rs2452248  | 48096000   | rs2452249  | 0.989    |
| 48093793 | rs2452248  | 48121473   | rs10515023 | 0.406    |
| 48093793 | rs2452248  | 48192021   | rs4451995  | 0.403    |
| 48093793 | rs2452248  | 48196285   | rs11871098 | 0.412    |
| 48094974 | rs1907667  | 48096000   | rs2452249  | 0.989    |
| 48094974 | rs1907667  | 48121473   | rs10515023 | 0.406    |
| 48094974 | rs1907667  | 48192021   | rs4451995  | 0.403    |
| 48094974 | rs1907667  | 48196285   | rs11871098 | 0.412    |
| 48096000 | rs2452249  | 48121473   | rs10515023 | 0.401    |
| 48096000 | rs2452249  | 48192021   | rs4451995  | 0.396    |
| 48096000 | rs2452249  | 48196285   | rs11871098 | 0.405    |
| 48121473 | rs10515023 | 48205748   | rs10515026 | 0.343    |
| 48192021 | rs4451995  | 48196285   | rs11871098 | 0.989    |
| 48192021 | rs4451995  | 48205748   | rs10515026 | 0.252    |
| Chromosome | Position | SNP | Distance | Distance | p-value |
|------------|----------|-----|----------|----------|---------|
| 17         | 48196285 | rs11871098 | 48205748 | rs10515026 | 0.255   |
| 17         | 48664476 | rs807072   | 4866911  | rs1607974 | 0.913   |
| 17         | 48664476 | rs807072   | 48669406 | rs9898437 | 0.932   |
| 17         | 4866911  | rs1607974  | 48669406 | rs9898437 | 0.981   |
| 17         | 49663220 | rs979800   | 49667564 | rs1396087 | 0.887   |
| 17         | 50956167 | rs6504972  | 50962748 | rs12940304 | 0.894   |
| 17         | 50956167 | rs6504972  | 50963972 | rs1396214 | 0.272   |
| 17         | 50956167 | rs6504972  | 50976491 | rs7220324 | 0.769   |
| 17         | 50956167 | rs6504972  | 50976704 | rs1876520 | 0.687   |
| 17         | 50956167 | rs6504972  | 50978009 | rs4239197 | 0.749   |
| 17         | 50956167 | rs6504972  | 50995441 | rs878601  | 0.270   |
| 17         | 50956167 | rs6504972  | 50999345 | rs8067664 | 0.473   |
| 17         | 50962748 | rs12940304 | 50963972 | rs1396214 | 0.248   |
| 17         | 50962748 | rs12940304 | 50976491 | rs7220324 | 0.707   |
| 17         | 50962748 | rs12940304 | 50976704 | rs1876520 | 0.619   |
| 17         | 50962748 | rs12940304 | 50978009 | rs4239197 | 0.687   |
| 17         | 50962748 | rs12940304 | 50995441 | rs878601  | 0.262   |
| 17         | 50962748 | rs12940304 | 50999345 | rs8067664 | 0.411   |
| 17         | 50963972 | rs1396214  | 50976491 | rs7220324 | 0.202   |
| 17         | 50963972 | rs1396214  | 50978009 | rs4239197 | 0.205   |
| 17         | 50963972 | rs1396214  | 50995441 | rs878601  | 0.626   |
| 17         | 50963972 | rs1396214  | 51004530 | rs8067664 | 0.310   |
| 17         | 50963972 | rs1396214  | 51004571 | rs8080344 | 0.436   |
| 17         | 50963972 | rs1396214  | 51009466 | rs7211277 | 0.205   |
| 17         | 50963972 | rs1396214  | 51009547 | rs7211426 | 0.205   |
| 17         | 50963972 | rs1396214  | 51020804 | rs986959  | 0.488   |
| 17         | 50976491 | rs7220324  | 50976704 | rs1876520 | 0.903   |
| 17         | 50976491 | rs7220324  | 50978009 | rs4239197 | 0.955   |
| 17         | 50976491 | rs7220324  | 50995441 | rs878601  | 0.260   |
| 17         | 50976491 | rs7220324  | 50999345 | rs8067664 | 0.551   |
| 17         | 50976491 | rs7220324  | 51009466 | rs7211277 | 0.377   |
| 17         | 50976491 | rs7220324  | 51009547 | rs7211426 | 0.377   |
| 17         | 50976491 | rs7220324  | 51020804 | rs986959  | 0.488   |
| 17         | 50976704 | rs1876520  | 50978009 | rs4239197 | 0.957   |
| 17         | 50976704 | rs1876520  | 50995441 | rs878601  | 0.226   |
| 17         | 50976704 | rs1876520  | 50999345 | rs8067664 | 0.479   |
| 17         | 50976704 | rs1876520  | 51009466 | rs7211277 | 0.476   |
| 17         | 50976704 | rs1876520  | 51009547 | rs7211426 | 0.476   |
| 17         | 50976704 | rs1876520  | 51020804 | rs986959  | 0.498   |
| 17         | 50978009 | rs4239197  | 50995441 | rs878601  | 0.263   |
| 17         | 50978009 | rs4239197  | 50999345 | rs8067664 | 0.542   |
| 17         | 50978009 | rs4239197  | 51009466 | rs7211277 | 0.439   |
| 17         | 50978009 | rs4239197  | 51009547 | rs7211426 | 0.439   |
| 17         | 50978009 | rs4239197  | 51020804 | rs986959  | 0.496   |
| 17         | 50978009 | rs4239197  | 51025593 | rs9912785 | 0.429   |
| 17         | 50995441 | rs878601   | 50999345 | rs8067664 | 0.259   |
| 17 | Genome | SNP | Z-score | P-value |
|----|--------|-----|---------|---------|
| 17 | 50995441 | rs878601 | 51004530 | rs8080325 0.368 |
| 17 | 50995441 | rs878601 | 51004571 | rs8080344 0.368 |
| 17 | 50995441 | rs878601 | 51009466 | rs7211277 0.203 |
| 17 | 50995441 | rs878601 | 51009547 | rs7211426 0.203 |
| 17 | 50995441 | rs878601 | 51020804 | rs986959 0.224 |
| 17 | 50995441 | rs878601 | 51021347 | rs17819647 0.348 |
| 17 | 50995441 | rs878601 | 51025593 | rs9912785 0.204 |
| 17 | 50995441 | rs878601 | 51041857 | rs9905891 0.215 |
| 17 | 50999345 | rs8067664 | 51004530 | rs8080325 0.201 |
| 17 | 50999345 | rs8067664 | 51004571 | rs8080344 0.201 |
| 17 | 50999345 | rs8067664 | 51020804 | rs986959 0.236 |
| 17 | 51004530 | rs8080325 | 51004571 | rs8080344 1.000 |
| 17 | 51004530 | rs8080325 | 51021347 | rs17819647 0.919 |
| 17 | 51004571 | rs8080344 | 51021347 | rs17819647 0.919 |
| 17 | 51004571 | rs8080344 | 51077176 | rs16956163 0.628 |
| 17 | 51009466 | rs7211277 | 51009547 | rs7211426 1.000 |
| 17 | 51009466 | rs7211277 | 51020804 | rs986959 0.822 |
| 17 | 51009466 | rs7211277 | 51025593 | rs9912785 0.948 |
| 17 | 51009466 | rs7211277 | 51041857 | rs9905891 0.965 |
| 17 | 51009466 | rs7211277 | 51055766 | rs9891412 0.949 |
| 17 | 51009466 | rs7211277 | 51070449 | rs9907033 0.872 |
| 17 | 51009466 | rs7211277 | 51077176 | rs16956163 0.294 |
| 17 | 51009547 | rs7211426 | 51020804 | rs986959 0.822 |
| 17 | 51009547 | rs7211426 | 51025593 | rs9912785 0.948 |
| 17 | 51009547 | rs7211426 | 51041857 | rs9905891 0.965 |
| 17 | 51009547 | rs7211426 | 51055766 | rs9891412 0.949 |
| 17 | 51009547 | rs7211426 | 51070449 | rs9907033 0.872 |
| 17 | 51009547 | rs7211426 | 51077176 | rs16956163 0.294 |
| 17 | 51020804 | rs986959 | 51025593 | rs9912785 0.785 |
| 17 | 51020804 | rs986959 | 51041857 | rs9905891 0.793 |
| 17 | 51020804 | rs986959 | 51055766 | rs9891412 0.767 |
| 17 | 51020804 | rs986959 | 51070449 | rs9907033 0.739 |
| 17 | 51020804 | rs986959 | 51077176 | rs16956163 0.295 |
| 17 | 51021347 | rs17819647 | 51077176 | rs16956163 0.659 |
| 17 | 51025593 | rs9912785 | 51041857 | rs9905891 0.982 |
| 17 | 51025593 | rs9912785 | 51055766 | rs9891412 0.948 |
| 17 | 51025593 | rs9912785 | 51070449 | rs9907033 0.870 |
| 17 | 51025593 | rs9912785 | 51077176 | rs16956163 0.323 |
| 17 | 51041857 | rs9905891 | 51055766 | rs9891412 0.965 |
| 17 | 51041857 | rs9905891 | 51070449 | rs9907033 0.886 |
| 17 | 51041857 | rs9905891 | 51077176 | rs16956163 0.308 |
| 17 | 51055766 | rs9891412 | 51070449 | rs9907033 0.922 |
| 17 | 51055766 | rs9891412 | 51077176 | rs16956163 0.321 |
| 17 | 51070449 | rs9907033 | 51077176 | rs16956163 0.346 |
| Chromosome | Position | SNP1    | Position | SNP2    | Position | SNP3    | p-value |
|------------|----------|---------|----------|---------|----------|---------|---------|
| 17         | 52113556 | rs1879143 | 52113654 | rs887088 | 0.752    |
| 17         | 52773732 | rs792402  | 52784443 | rs792387 | 0.232    |
| 17         | 52784443 | rs792387  | 52790274 | rs9904395| 0.301    |
| 17         | 56055974 | rs7208331 | 56939347 | rs10853034| 0.230    |
| 17         | 57602509 | rs12451501| 57618904 | rs4968413 | 0.203    |
| 17         | 57602509 | rs12451501| 57618993 | rs9904395| 0.235    |
| 17         | 57618904 | rs4968414 | 57618993 | rs4968414| 0.979    |
| 17         | 60684655 | rs9915678 | 60686487 | rs17689972| 0.210    |
| 17         | 60684655 | rs9915678 | 60731999 | rs17763899| 0.505    |
| 17         | 60684655 | rs9915678 | 60732937 | rs9904395| 0.357    |
| 17         | 60684655 | rs9915678 | 60754695 | rs41390346| 0.293    |
| 17         | 60731999 | rs17763899| 60754695 | rs41390346| 0.661    |
| 17         | 60731999 | rs17763899| 60732937 | rs9910773 | 0.645    |
| 17         | 60732937 | rs9910773 | 60754695 | rs41390346| 0.371    |
| 17         | 60732937 | rs9910773 | 60754695 | rs41390346| 0.622    |
| 17         | 60732937 | rs9910773 | 60754695 | rs41390346| 0.661    |
| 17         | 60731999 | rs17763899| 60732937 | rs9910773 | 0.645    |
| 17         | 60731999 | rs17763899| 60754695 | rs41390346| 0.371    |
| 17         | 60731999 | rs17763899| 60732937 | rs9910773 | 0.645    |
| 17         | 60732937 | rs9910773 | 60754695 | rs41390346| 0.622    |
| 18         | 983637   | rs9954574 | 98431    | rs789073 | 0.787    |
| 18         | 3732572  | rs3745050 | 3732713  | rs11873533| 0.980    |
| 18         | 3732572  | rs3745050 | 3736382  | rs1815957 | 0.904    |
| 18         | 3732713  | rs11873533| 3736382  | rs1815957 | 0.901    |
| 18         | 4646266  | rs7243287 | 4696335  | rs11081144| 0.626    |
| 18         | 4646266  | rs7243287 | 4700778  | rs1940848 | 0.594    |
| 18         | 4646266  | rs7243287 | 4720655  | rs4797180 | 0.316    |
| 18         | 4646266  | rs7243287 | 4720882  | rs8091193 | 0.599    |
| 18         | 4696335  | rs11081144| 4700778  | rs1940848 | 0.944    |
| 18         | 4696335  | rs11081144| 4720655  | rs4797180 | 0.533    |
| 18         | 4696335  | rs11081144| 4720882  | rs8091193 | 0.929    |
| 18         | 4700778  | rs1940848 | 4720655  | rs4797180 | 0.531    |
| 18         | 4700778  | rs1940848 | 4720882  | rs8091193 | 0.912    |
| 18         | 4720655  | rs4797180 | 4720882  | rs8091193 | 0.575    |
| 18         | 6272593  | rs403814  | 6277726  | rs1452539 | 0.909    |
| 18         | 6272593  | rs403814  | 6284119  | rs3898848 | 0.635    |
| 18         | 6272593  | rs403814  | 6318558  | rs17502069| 0.457    |
| 18         | 6272593  | rs403814  | 6327489  | rs186884 | 0.851    |
| 18         | 6277726  | rs1452539 | 6284119  | rs3898848 | 0.717    |
| 18 | 6277726 | rs1452539 | 6318558 | rs17502069 | 0.496 |
| 18 | 6277726 | rs1452539 | 6327489 | rs186884 | 0.880 |
| 18 | 6284119 | rs3898848 | 6318558 | rs17502069 | 0.624 |
| 18 | 6284119 | rs3898848 | 6327489 | rs186884 | 0.609 |
| 18 | 6318558 | rs17502069 | 6327489 | rs186884 | 0.458 |
| 18 | 6967044 | rs658121 | 6318558 | rs17502069 | 0.974 |
| 18 | 6967044 | rs658121 | 6327489 | rs186884 | 0.609 |
| 18 | 7205275 | rs8094220 | 7214416 | rs9966939 | 0.951 |
| 18 | 7937846 | rs7239786 | 8128090 | rs687245 | 0.290 |
| 18 | 8116599 | rs663105 | 8128090 | rs687245 | 0.839 |
| 18 | 8491545 | rs12457756 | 8493565 | rs12454304 | 0.275 |
| 18 | 9019558 | rs9973176 | 9019580 | rs6506633 | 0.521 |
| 18 | 9541028 | rs745218 | 9567981 | rs9946612 | 0.871 |
| 18 | 10914184 | rs264271 | 10915419 | rs264270 | 1.000 |
| 18 | 10914184 | rs264271 | 10916135 | rs264268 | 1.000 |
| 18 | 10915419 | rs264270 | 10916135 | rs264268 | 1.000 |
| 18 | 10916135 | rs264268 | 10918393 | rs264263 | 0.965 |
| 18 | 11001381 | rs3246 | 11003889 | rs1471671 | 0.363 |
| 18 | 11001381 | rs3246 | 11010599 | rs2625358 | 0.286 |
| 18 | 11003889 | rs1471671 | 11010599 | rs2625358 | 0.783 |
| 18 | 11764500 | rs2161961 | 11792991 | rs9303749 | 0.680 |
| 18 | 12769947 | rs2542151 | 12787694 | rs7234029 | 0.358 |
| 18 | 12769947 | rs2542151 | 12867060 | rs7234029 | 0.236 |
| 18 | 13729959 | rs8097240 | 13736992 | rs1942672 | 0.990 |
| 18 | 13839297 | rs6505850 | 13842419 | rs1942672 | 0.634 |
| 18 | 13842419 | rs98324 | 13861956 | rs1942672 | 0.279 |
| 18 | 20148975 | rs12709785 | 20154446 | rs2588567 | 0.820 |
| 18 | 20539276 | rs11873809 | 20653546 | rs17203977 | 0.372 |
| 18 | 22621571 | rs11663064 | 22664983 | rs16958776 | 0.356 |
| 18 | 23402923 | rs16943751 | 23445921 | rs16943923 | 0.306 |
| 18 | 23402923 | rs16943751 | 23493453 | rs16943923 | 0.329 |
| 18 | 23445921 | rs16943845 | 23493453 | rs16943923 | 0.329 |
| 18 | 24426085 | rs11663444 | 24482485 | rs6508558 | 0.864 |
| 18 | 28053311 | rs10502585 | 28075158 | rs9963993 | 0.978 |
| 18 | 28095530 | rs16962918 | 28119201 | rs16962971 | 0.911 |
| 18 | 28554107 | rs12456916 | 28554420 | rs12456996 | 0.848 |
| 18 | 28554107 | rs12456916 | 28554509 | rs12454409 | 0.965 |
| Chromosome | Position | SNP | Position | SNP | Distance | r2 |
|------------|----------|-----|----------|-----|----------|----|
| 18         | 28554420 | rs12456996 | 28554509 | rs12454409 | 0.878 |
| 18         | 29564414 | rs1389535 | 29569876 | rs9956918 | 0.789 |
| 18         | 29564414 | rs1389535 | 29576276 | rs6507060 | 0.833 |
| 18         | 29564414 | rs1389535 | 29582718 | rs9947894 | 0.815 |
| 18         | 29564414 | rs1389535 | 29612489 | rs1565784 | 0.786 |
| 18         | 29564414 | rs1389535 | 29642678 | rs12457802 | 0.620 |
| 18         | 29569876 | rs9956918 | 29576276 | rs6507060 | 0.790 |
| 18         | 29569876 | rs9956918 | 29582718 | rs9947894 | 0.736 |
| 18         | 29569876 | rs9956918 | 29612489 | rs1565784 | 0.688 |
| 18         | 29569876 | rs9956918 | 29642678 | rs12958029 | 0.505 |
| 18         | 29569876 | rs9956918 | 29643863 | rs12457802 | 0.615 |
| 18         | 29576276 | rs6507060 | 29582718 | rs12457802 | 0.857 |
| 18         | 29576276 | rs6507060 | 29612489 | rs1565784 | 0.798 |
| 18         | 29576276 | rs6507060 | 29642678 | rs12958029 | 0.433 |
| 18         | 29576276 | rs6507060 | 29643863 | rs12457802 | 0.603 |
| 18         | 29582718 | rs9947894 | 29612489 | rs1565784 | 0.931 |
| 18         | 29582718 | rs9947894 | 29642678 | rs12958029 | 0.510 |
| 18         | 29582718 | rs9947894 | 29643863 | rs12457802 | 0.615 |
| 18         | 29612489 | rs1565784 | 29642678 | rs12958029 | 0.476 |
| 18         | 29612489 | rs1565784 | 29643863 | rs12457802 | 0.644 |
| 18         | 29642678 | rs12958029 | 29643863 | rs12457802 | 0.479 |
| 18         | 33911399 | rs16969649 | 33914511 | rs8091939 | 0.984 |
| 18         | 33911399 | rs16969649 | 33924324 | rs979433 | 0.624 |
| 18         | 33911399 | rs16969649 | 33927540 | rs12150709 | 0.631 |
| 18         | 33911399 | rs16969649 | 33941894 | rs9952844 | 0.694 |
| 18         | 33914511 | rs8091939 | 33924324 | rs979433 | 0.631 |
| 18         | 33914511 | rs8091939 | 33927540 | rs12150709 | 0.631 |
| 18         | 33914511 | rs8091939 | 33941894 | rs9952844 | 0.685 |
| 18         | 33914511 | rs8091939 | 33924324 | rs979433 | 0.631 |
| 18         | 33924324 | rs979433 | 33927540 | rs12150709 | 0.624 |
| 18         | 33911399 | rs16969649 | 33941894 | rs9952844 | 0.685 |
| 18         | 33914511 | rs8091939 | 33924324 | rs979433 | 0.631 |
| 18         | 33914511 | rs8091939 | 33941894 | rs9952844 | 0.694 |
| 18         | 33924324 | rs979433 | 33927540 | rs12150709 | 1.000 |
| 18         | 33927540 | rs12150709 | 33941894 | rs9952844 | 0.829 |
| 18         | 34283162 | rs11665456 | 34283363 | rs9304191 | 0.969 |
| 18         | 34287621 | rs16970229 | 34290429 | rs867752 | 0.687 |
| 18         | 34287621 | rs16970229 | 34307641 | rs16970360 | 0.862 |
| 18         | 34290429 | rs867752 | 34307641 | rs16970360 | 0.594 |
| 18         | 38200013 | rs346443 | 38395988 | rs12373388 | 0.265 |
| 18         | 38579747 | rs598658 | 38580258 | rs567325 | 0.984 |
| 18         | 39650092 | rs16977675 | 39650277 | rs12457822 | 0.990 |
| 18         | 39650092 | rs16977675 | 39651882 | rs1380834 | 0.961 |
| 18         | 39650277 | rs12458722 | 39651882 | rs1380834 | 0.971 |
| 18         | 40269659 | rs8087876 | 40287441 | rs16978001 | 0.622 |
| 18         | 40269659 | rs8087876 | 40291585 | rs2063503 | 0.569 |
| 18 | 40269659 | rs8087876 | 40298960 | rs7230479 | 0.844 |
| 18 | 40269659 | rs8087876 | 40302212 | rs9957037 | 0.979 |
| 18 | 40269659 | rs8087876 | 40309270 | rs12359894 | 0.990 |
| 18 | 40269659 | rs8087876 | 40322004 | rs12605825 | 0.540 |
| 18 | 40269659 | rs8087876 | 40331423 | rs12456054 | 0.298 |
| 18 | 40287441 | rs16978001 | 40291585 | rs2063503 | 0.975 |
| 18 | 40287441 | rs16978001 | 40298960 | rs7230479 | 0.550 |
| 18 | 40287441 | rs16978001 | 40302212 | rs9957037 | 0.627 |
| 18 | 40287441 | rs16978001 | 40309270 | rs2359894 | 0.620 |
| 18 | 40287441 | rs16978001 | 40322004 | rs12605825 | 0.266 |
| 18 | 40287441 | rs16978001 | 40331423 | rs12456054 | 0.473 |
| 18 | 40291585 | rs9957037 | 40302212 | rs9957037 | 0.574 |
| 18 | 40291585 | rs9957037 | 40309270 | rs2359894 | 0.568 |
| 18 | 40291585 | rs9957037 | 40322004 | rs12605825 | 0.240 |
| 18 | 40291585 | rs9957037 | 40331423 | rs12456054 | 0.488 |
| 18 | 40291585 | rs9957037 | 40340980 | rs8084507 | 0.492 |
| 18 | 40302212 | rs9957037 | 40302212 | rs9957037 | 0.845 |
| 18 | 40302212 | rs9957037 | 40309270 | rs2359894 | 0.853 |
| 18 | 40302212 | rs9957037 | 40322004 | rs12605825 | 0.446 |
| 18 | 40302212 | rs9957037 | 40331423 | rs12456054 | 0.264 |
| 18 | 40302212 | rs9957037 | 40340980 | rs8084507 | 0.980 |
| 18 | 40309270 | rs2359894 | 40322004 | rs12605825 | 0.547 |
| 18 | 40309270 | rs2359894 | 40331423 | rs12456054 | 0.308 |
| 18 | 40309270 | rs2359894 | 40340980 | rs8084507 | 0.828 |
| 18 | 40322004 | rs12605825 | 40331423 | rs12456054 | 0.546 |
| 18 | 40322004 | rs12605825 | 40340980 | rs8084507 | 0.437 |
| 18 | 40331423 | rs12456054 | 40340980 | rs8084507 | 0.259 |
| 18 | 43305157 | rs8091926 | 43335567 | rs16954613 | 0.509 |
| 18 | 43860140 | rs7504329 | 43865465 | rs6507802 | 0.237 |
| 18 | 44233865 | rs4939776 | 44235524 | rs5029382 | 0.827 |
| 18 | 44233865 | rs4939776 | 44272557 | rs1512177 | 0.532 |
| 18 | 44235524 | rs5029382 | 44272557 | rs1512177 | 0.460 |
| 18 | 44970083 | rs4939846 | 45024184 | rs11661691 | 0.223 |
| 18 | 44970083 | rs4939846 | 45027558 | rs11662738 | 0.284 |
| 18 | 45024184 | rs11661691 | 45027558 | rs11662738 | 0.726 |
| 18 | 47962726 | rs4423510 | 47984154 | rs12456856 | 0.629 |
| 18 | 52746016 | rs7237084 | 52783500 | rs9954313 | 0.744 |
| Chromosome | Position 1 | SNP 1 | Position 2 | SNP 2 | Distance | p-value |
|------------|------------|-------|------------|-------|----------|---------|
| 18         | 53313517   | rs4940804 | 53340294   | rs7235134 | 0.500    |
| 18         | 53666463   | rs17759803 | 53683532   | rs3897751 | 0.395    |
| 18         | 54694937   | rs12969520 | 54697058   | rs17694691 | 0.569    |
| 18         | 54697058   | rs17694691 | 54703064   | rs11872224 | 0.275    |
| 18         | 55230517   | rs8088790  | 55238263   | rs9319950 | 0.823    |
| 18         | 55230517   | rs8088790  | 55249616   | rs7230906 | 0.820    |
| 18         | 55238263   | rs9319950  | 55249616   | rs7230906 | 0.853    |
| 18         | 55508632   | rs1429577  | 55511113   | rs2852356 | 0.842    |
| 18         | 55230517   | rs8088790  | 55238263   | rs9319950 | 0.823    |
| 18         | 55238263   | rs9319950  | 55249616   | rs7230906 | 0.853    |
| 18         | 57350517   | rs9783862  | 57357460   | rs11875000 | 0.895    |
| 18         | 57623326   | rs9960910  | 57627449   | rs9963722 | 0.412    |
| 18         | 57798480   | rs2116334  | 57798816   | rs1346949 | 0.676    |
| 18         | 57798480   | rs2116334  | 57811523   | rs1431583 | 0.735    |
| 18         | 57798480   | rs2116334  | 57811870   | rs1431584 | 0.988    |
| 18         | 57798480   | rs2116334  | 57886440   | rs1030582 | 0.278    |
| 18         | 57798480   | rs2116334  | 57886973   | rs17634631 | 0.813    |
| 18         | 57798480   | rs2116334  | 57925017   | rs9319997 | 0.813    |
| 18         | 57798480   | rs2116334  | 57927708   | rs17641823 | 0.813    |
| 18         | 57798816   | rs1346949  | 57811523   | rs1431583 | 0.660    |
| 18         | 57798816   | rs1346949  | 57811870   | rs1431584 | 0.668    |
| 18         | 57798816   | rs1346949  | 57886973   | rs17634631 | 0.563    |
| 18         | 57798816   | rs1346949  | 57925017   | rs9319997 | 0.563    |
| 18         | 57798816   | rs1346949  | 57927708   | rs17641823 | 0.563    |
| 18         | 57811523   | rs1431583  | 57811870   | rs1431584 | 0.745    |
| 18         | 57811523   | rs1431583  | 57886973   | rs17634631 | 0.611    |
| 18         | 57811523   | rs1431583  | 57925017   | rs9319997 | 0.611    |
| 18         | 57811523   | rs1431583  | 57927708   | rs17641823 | 0.611    |
| 18         | 57811870   | rs1431584  | 57886440   | rs1030582 | 0.285    |
| 18         | 57811870   | rs1431584  | 57886973   | rs17634631 | 0.822    |
| 18         | 57811870   | rs1431584  | 57925017   | rs9319997 | 0.822    |
| 18         | 57811870   | rs1431584  | 57927708   | rs17641823 | 0.822    |
| 18         | 57866440   | rs1030582  | 57886973   | rs17634631 | 0.286    |
| 18         | 57866440   | rs1030582  | 57925017   | rs9319997 | 0.286    |
| 18         | 57886440   | rs1030582  | 57927708   | rs17641823 | 0.286    |
| 18         | 57886973   | rs17634631 | 57925017   | rs9319997 | 1.000    |
| 18         | 57886973   | rs17634631 | 57927708   | rs17641823 | 1.000    |
| 18         | 57925017   | rs9319997  | 57927708   | rs17641823 | 1.000    |
| 18         | 61626782   | rs7244664  | 61627079   | rs1994230 | 0.406    |
| 18         | 61626782   | rs7244664  | 61736852   | rs205084  | 0.339    |
| 18         | 61627079   | rs1994230  | 61736852   | rs205084  | 0.232    |
| 18         | 64662990   | rs1893438  | 64663123   | rs1539897 | 0.799    |
| 18         | 66933645   | rs17181300 | 67045771   | rs17193525 | 0.247    |
| 18         | 67014919   | rs8098181  | 67022529   | rs4599012 | 0.833    |
| 18         | 67014919   | rs8098181  | 67045771   | rs17193525 | 0.646    |
| 18 | 67014919 | rs8098181 | 67097075 | rs17281295 | 0.802 |
| 18 | 67022529 | rs4599012 | 67045771 | rs17193525 | 0.508 |
| 18 | 67022529 | rs4599012 | 67097075 | rs17281295 | 0.633 |
| 18 | 67045771 | rs17193525 | 67097075 | rs17281295 | 0.713 |
| 18 | 67591733 | rs8094687 | 67593046 | rs1725992 | 0.963 |
| 18 | 68900356 | rs2469032 | 68926719 | rs11661950 | 0.245 |
| 18 | 68900356 | rs2469032 | 68926813 | rs11661997 | 0.245 |
| 18 | 68926719 | rs11661950 | 68926813 | rs11661997 | 1.000 |
| 18 | 68926719 | rs11661997 | 68942375 | rs1503024 | 0.547 |
| 18 | 68926813 | rs11661950 | 68942375 | rs1503024 | 0.547 |
| 18 | 68926813 | rs11661997 | 68942375 | rs1503024 | 0.547 |
| 18 | 69452130 | rs2703496 | 69473486 | rs17763239 | 0.237 |
| 18 | 69452130 | rs2703496 | 69473702 | rs4892122 | 0.963 |
| 18 | 69452130 | rs2703496 | 69473702 | rs17763239 | 0.237 |
| 18 | 69452130 | rs2703496 | 69473889 | rs17763263 | 0.237 |
| 18 | 69452130 | rs2703496 | 69478734 | rs6566752 | 0.315 |
| 18 | 69452130 | rs2703496 | 69498117 | rs8092542 | 0.489 |
| 18 | 69452130 | rs2703496 | 69498407 | rs9953978 | 0.496 |
| 18 | 69473486 | rs8095367 | 69473702 | rs4892122 | 0.339 |
| 18 | 69473486 | rs8095367 | 69473702 | rs17763239 | 1.000 |
| 18 | 69473486 | rs8095367 | 69473889 | rs17763263 | 1.000 |
| 18 | 69473486 | rs8095367 | 69478734 | rs6566752 | 0.566 |
| 18 | 69473486 | rs8095367 | 69498117 | rs8092542 | 0.342 |
| 18 | 69473486 | rs8095367 | 69498407 | rs9953978 | 0.321 |
| 18 | 69473702 | rs4892122 | 69473702 | rs17763239 | 0.339 |
| 18 | 69473702 | rs4892122 | 69473889 | rs17763263 | 0.339 |
| 18 | 69473702 | rs4892122 | 69478734 | rs6566752 | 0.668 |
| 18 | 69473702 | rs4892122 | 69498117 | rs8092542 | 0.590 |
| 18 | 69473702 | rs4892122 | 69498407 | rs9953978 | 0.577 |
| 18 | 69473773 | rs17763239 | 69473889 | rs17763263 | 1.000 |
| 18 | 69473773 | rs17763239 | 69478734 | rs6566752 | 0.566 |
| 18 | 69473773 | rs17763239 | 69498117 | rs8092542 | 0.342 |
| 18 | 69473773 | rs17763239 | 69498407 | rs9953978 | 0.321 |
| 18 | 69473889 | rs17763263 | 69478734 | rs6566752 | 0.566 |
| 18 | 69473889 | rs17763263 | 69498117 | rs8092542 | 0.342 |
| 18 | 69473889 | rs17763263 | 69498407 | rs9953978 | 0.321 |
| 18 | 69473889 | rs17763263 | 69498407 | rs9953978 | 0.321 |
| 18 | 69478734 | rs6566752 | 69498117 | rs8092542 | 0.347 |
| 18 | 69478734 | rs6566752 | 69498407 | rs9953978 | 0.334 |
| 18 | 69498117 | rs8092542 | 69498407 | rs9953978 | 0.966 |
| 18 | 71628170 | rs1460280 | 71629102 | rs11659458 | 0.307 |
| 18 | 71628170 | rs1460280 | 71632405 | rs7239549 | 0.758 |
| 18 | 71628170 | rs1460280 | 71634911 | rs4387675 | 0.774 |
| 18 | 71628170 | rs1460280 | 71635578 | rs2187254 | 0.299 |
| 18 | 71629102 | rs11659458 | 71632405 | rs7239549 | 0.219 |
| Chr | Start   | rsID     | End     | rsID     | DAF     |
|-----|---------|----------|---------|----------|---------|
| 18  | 71629102| rs11659458| 71634911| rs4387675| 0.211   |
| 18  | 71629102| rs11659458| 71635578| rs2187254| 0.993   |
| 18  | 71632405| rs7239549 | 71634911| rs4387675| 0.985   |
| 18  | 71632405| rs7239549 | 71635578| rs2187254| 0.211   |
| 18  | 71634911| rs4387675 | 71635578| rs2187254| 0.204   |
| 18  | 71846998| rs7245337 | 71852221| rs11150924| 0.927   |
| 18  | 71982132| rs12969990| 71984454| rs10514206| 1.000   |
| 18  | 71982132| rs12969990| 71984454| rs10514206| 1.000   |
| 19  | 11745524| rs435368  | 11752003| rs799193  | 0.233   |
| 19  | 13216068| rs12052059| 13216633| rs12611029| 0.462   |
| 19  | 13216068| rs12052059| 13217380| rs2302080 | 0.332   |
| 19  | 13216633| rs12611029| 13217380| rs2302080 | 0.698   |
| 19  | 19148901| rs1050544 | 19158292| rs3787040 | 0.598   |
| 19  | 20806839| rs431157  | 20949730| rs9304978 | 0.543   |
| 19  | 21182564| rs7254957 | 21257662| rs279807  | 0.299   |
| 19  | 22696967| rs12973782| 23531320| rs2195962 | 0.450   |
| 19  | 23531320| rs2195962 | 23534946| rs2217662 | 0.450   |
| 19  | 23531320| rs2195962 | 23620564| rs10417223| 0.206   |
| 19  | 34456548| rs12460892| 34468249| rs6509333 | 0.702   |
| 19  | 34456548| rs12460892| 34472578| rs759632  | 0.498   |
| 19  | 34456548| rs12460892| 34475403| rs10406799| 0.759   |
| 19  | 34456548| rs12460892| 34476307| rs11083894| 0.576   |
| 19  | 34456548| rs12460892| 34480470| rs17624382| 0.488   |
| 19  | 34468249| rs6509333 | 34472578| rs759632  | 0.760   |
| 19  | 34468249| rs6509333 | 34475403| rs10406799| 0.794   |
| 19  | 34468249| rs6509333 | 34476307| rs11083894| 0.678   |
| 19  | 34468249| rs6509333 | 34480470| rs17624382| 0.578   |
| 19  | 34472578| rs759632  | 34475403| rs10406799| 0.588   |
| 19  | 34472578| rs759632  | 34476307| rs11083894| 0.892   |
| 19  | 34472578| rs759632  | 34480470| rs17624382| 0.798   |
| 19  | 34475403| rs10406799| 34476307| rs11083894| 0.688   |
| 19  | 34475403| rs10406799| 34480470| rs17624382| 0.693   |
| 19  | 34476307| rs11083894| 34480470| rs17624382| 0.896   |
| 19  | 36363983| rs8107562 | 36372570| rs1353534 | 0.824   |
| Chromosome | RS_ID | Start | End | RS_ID | Start | End | p Value |
|------------|------|-------|-----|------|-------|-----|---------|
| 19         | 36363983 | 36372820 | rs1353535 | 0.824 |
| 19         | 36363983 | 36398251 | rs8109968 | 0.605 |
| 19         | 36372570 | 36372820 | rs1353534 | 0.980 |
| 19         | 36372570 | 36398251 | rs8107562 | 0.605 |
| 19         | 38762105 | 38786025 | rs1353535 | 0.980 |
| 19         | 43726908 | 43740003 | rs10500279 | 0.350 |
| 19         | 58740763 | 58741116 | rs10411772 | 0.867 |
| 19         | 60957621 | 62771618 | rs6510081 | 0.295 |
| 19         | 62689746 | 62773680 | rs6510081 | 0.292 |
| 20         | 2302886  | 2303387  | rs2422741 | 0.948 |
| 20         | 7539005  | 7539377  | rs6055172 | 0.837 |
| 20         | 7539005  | 7578428  | rs6055172 | 0.349 |
| 20         | 10165497 | 10166958 | rs363029  | 0.887 |
| 20         | 11156822 | 11180689 | rs6040477 | 0.548 |
| 20         | 11156822 | 11180689 | rs6040477 | 1.000 |
| 20         | 11445272 | 12429805 | rs6078631 | 0.756 |
| 20         | 12429269 | 12453962 | rs6041427 | 0.213 |
| 20         | 12429269 | 12453962 | rs6041427 | 0.296 |
| 20         | 13087821 | 13089809 | rs6033633 | 0.666 |
| 20         | 15343353 | 15376111 | rs11698317 | 0.446 |
| 20         | 17405674 | 17419061 | rs761018  | 0.333 |
| 20         | 17405674 | 17419061 | rs761018  | 0.264 |
| 20         | 19999890 | 2000184  | rs2328682 | 0.517 |
| 20         | 20246483 | 20251376 | rs6046790 | 0.974 |
| 20         | 21359481 | 21567273 | rs6082475 | 0.784 |
| 20         | 21359481 | 21567273 | rs6082475 | 0.392 |
| 20         | 21359481 | 22364829 | rs6048084 | 0.223 |
| 20         | 21567273 | 21662807 | rs6048084 | 0.389 |
| 20         | 21772282 | 21866288 | rs804516  | 0.236 |
| SNP       | Consequence | Feature   | Location | Score | p-value |
|-----------|-------------|-----------|----------|-------|---------|
| rs201149  | 2.7          | intron    | 20       | 0.54  | 0.001   |
| rs804516  | 2.0          | intron    | 20       | 0.54  | 0.001   |
| rs6048105 | 2.0          | intron    | 20       | 0.54  | 0.001   |
| rs585141  | 2.0          | intron    | 20       | 0.54  | 0.001   |
| rs858141  | 2.0          | intron    | 20       | 0.54  | 0.001   |
| rs858141  | 2.0          | intron    | 20       | 0.54  | 0.001   |
| rs6049453 | 2.0          | intron    | 20       | 0.54  | 0.001   |
| rs6049453 | 2.0          | intron    | 20       | 0.54  | 0.001   |
| rs6049453 | 2.0          | intron    | 20       | 0.54  | 0.001   |
| rs6049453 | 2.0          | intron    | 20       | 0.54  | 0.001   |
| rs6049453 | 2.0          | intron    | 20       | 0.54  | 0.001   |
| rs6049453 | 2.0          | intron    | 20       | 0.54  | 0.001   |
| rs6049453 | 2.0          | intron    | 20       | 0.54  | 0.001   |
| rs6049453 | 2.0          | intron    | 20       | 0.54  | 0.001   |

**Summary:** The table above shows a list of SNPs with their associated consequences, features, locations, and scores. The p-values indicate statistical significance. The scores range from 2.0 to 0.54, with the lowest p-value being 0.001. The SNPs are shown along with their rs numbers, which are unique identifiers for these genetic variants.
| rsID1   | rsID2 | rsID3   | rsID4   | rsID5   | rsID6   |
|---------|-------|---------|---------|---------|---------|
| 20      | 4092402 | rs6030070 | 40296596 | rs6030076 | 0.879   |
| 20      | 4092402 | rs6030070 | 40321219 | rs6030096 | 0.456   |
| 20      | 4092402 | rs6030071 | 40295037 | rs1014757 | 0.455   |
| 20      | 4092402 | rs6030071 | 40296596 | rs6030076 | 0.860   |
| 20      | 4092402 | rs6030071 | 40321219 | rs6030096 | 0.467   |
| 20      | 4092402 | rs6030071 | 40295037 | rs1014757 | 0.455   |
| 20      | 4092402 | rs6030071 | 40321219 | rs6030096 | 0.467   |
| 20      | 4092402 | rs6030071 | 40295037 | rs1014757 | 0.455   |
| 20      | 4092402 | rs6030071 | 40321219 | rs6030096 | 0.467   |
| 20      | 4092402 | rs6030071 | 40295037 | rs1014757 | 0.455   |
| 20      | 4092402 | rs6030071 | 40321219 | rs6030096 | 0.467   |
| 20      | 4092402 | rs6030071 | 40295037 | rs1014757 | 0.455   |
| 20      | 4092402 | rs6030071 | 40321219 | rs6030096 | 0.467   |
| 20      | 4092402 | rs6030071 | 40295037 | rs1014757 | 0.455   |
| 20      | 4092402 | rs6030071 | 40321219 | rs6030096 | 0.467   |
| 20      | 4092402 | rs6030071 | 40295037 | rs1014757 | 0.455   |
| 20      | 4092402 | rs6030071 | 40321219 | rs6030096 | 0.467   |
| 20      | 4092402 | rs6030071 | 40295037 | rs1014757 | 0.455   |
| 20      | 4092402 | rs6030071 | 40321219 | rs6030096 | 0.467   |
| 20      | 4092402 | rs6030071 | 40295037 | rs1014757 | 0.455   |
| 20      | 4092402 | rs6030071 | 40321219 | rs6030096 | 0.467   |
| 20      | 4092402 | rs6030071 | 40295037 | rs1014757 | 0.455   |
| 20      | 4092402 | rs6030071 | 40321219 | rs6030096 | 0.467   |
| 20      | 4092402 | rs6030071 | 40295037 | rs1014757 | 0.455   |
| 20      | 4092402 | rs6030071 | 40321219 | rs6030096 | 0.467   |
| 20      | 4092402 | rs6030071 | 40295037 | rs1014757 | 0.455   |
| 20      | 4092402 | rs6030071 | 40321219 | rs6030096 | 0.467   |
| 20      | 4092402 | rs6030071 | 40295037 | rs1014757 | 0.455   |
| 20      | 4092402 | rs6030071 | 40321219 | rs6030096 | 0.467   |
| Chromosome | Start Position | SNP ID | End Position | SNP ID | R2 |
|------------|----------------|--------|--------------|--------|----|
| 20         | 61001169       | rs6011456 | 61010764     | rs6010784 | 0.556 |
| 21         | 14807145       | rs2049858 | 14807690     | rs1556280 | 0.990 |
| 21         | 16125656       | rs2297248 | 16147899     | rs2823507 | 0.386 |
| 21         | 16147899       | rs2823507 | 16470310     | rs2823626 | 0.215 |
| 21         | 16147899       | rs2823507 | 16580133     | rs2823736 | 0.238 |
| 21         | 16147899       | rs2823507 | 17099043     | rs2824057 | 0.241 |
| 21         | 18209236       | rs7276331 | 18210063     | rs2824545 | 0.841 |
| 21         | 18209236       | rs7276331 | 18212104     | rs2824549 | 0.818 |
| 21         | 18209236       | rs7276331 | 18212130     | rs2824550 | 0.774 |
| 21         | 18209236       | rs7276331 | 18237813     | rs2824057 | 0.749 |
| 21         | 18209236       | rs7276331 | 18246644     | rs12626848 | 0.431 |
| 21         | 18210063       | rs2824545 | 18212104     | rs2824549 | 0.962 |
| 21         | 18210063       | rs2824545 | 18212130     | rs2824550 | 0.915 |
| 21         | 18210063       | rs2824545 | 18237813     | rs2824549 | 0.366 |
| 21         | 18212104       | rs2824549 | 18212130     | rs2824550 | 0.883 |
| 21         | 18212104       | rs2824549 | 18237813     | rs2824571 | 0.396 |
| 21         | 18212104       | rs2824549 | 18246644     | rs12626848 | 0.372 |
| 21         | 18212130       | rs2824550 | 18237813     | rs2824571 | 0.352 |
| 21         | 18212130       | rs2824550 | 18246644     | rs12626848 | 0.320 |
| 21         | 18237813       | rs2824571 | 18246644     | rs12626848 | 0.956 |
| 21         | 18853412       | rs1740142 | 18878920     | rs1735798 | 0.630 |
| 21         | 18853412       | rs1740142 | 18896937     | rs2824946 | 0.521 |
| 21         | 18853412       | rs1740142 | 18914694     | rs2824957 | 0.477 |
| 21         | 18878732       | rs2824918 | 18878920     | rs1735798 | 0.265 |
| 21         | 18878732       | rs2824918 | 18896937     | rs2824946 | 0.340 |
| 21         | 18878732       | rs2824918 | 18914694     | rs2824957 | 0.351 |
| 21         | 18878920       | rs1735798 | 18896937     | rs2824946 | 0.820 |
| 21         | 18878920       | rs1735798 | 18914694     | rs2824957 | 0.711 |
| 21         | 18896937       | rs2824946 | 18914694     | rs2824957 | 0.841 |
| 21         | 19483092       | rs2051365 | 19551215     | rs2824946 | 0.318 |
| 21         | 21050970       | rs463419  | 21067008     | rs2826509 | 0.709 |
| 21         | 21317961       | rs8131899 | 21318244     | rs9983588 | 0.726 |
| 21         | 21863305       | rs7278655 | 21873271     | rs41499345 | 0.565 |
| 21         | 22108903       | rs2827061 | 22118120     | rs2827076 | 0.875 |
| 21         | 22108903       | rs2827061 | 22118163     | rs2827077 | 0.828 |
| 21         | 22108903       | rs2827061 | 22127413     | rs9306034 | 0.590 |
| 21         | 22108903       | rs2827061 | 22142443     | rs2827091 | 0.594 |
| 21         | 22118120       | rs2827076 | 22118163     | rs2827077 | 0.988 |
| 21         | 22118120       | rs2827076 | 22127413     | rs9306034 | 0.730 |
| 21         | 22118120       | rs2827076 | 22142443     | rs2827091 | 0.718 |
| 21         | 22118163       | rs2827077 | 22127413     | rs9306034 | 0.761 |
| 21         | 22118163       | rs2827077 | 22142443     | rs2827091 | 0.749 |
| 21         | 22127413       | rs9306034 | 22142443     | rs2827091 | 0.958 |
|   | Start Position 1 | SNP 1          | End Position 1 | SNP 2          | SNP 3          | p-value 1 |
|---|------------------|----------------|----------------|----------------|----------------|-----------|
| 21| 22698343         | rs2827482      | 22709066       | rs2827511      | 0.435          |
| 21| 22698343         | rs2827482      | 22710258       | rs2026214      | 0.283          |
| 21| 22709066         | rs2827511      | 22710258       | rs2026214      | 0.509          |
| 21| 23442973         | rs2827909      | 23443841       | rs2827912      | 1.000          |
| 21| 23442973         | rs2827909      | 23444664       | rs2827915      | 1.000          |
| 21| 23443841         | rs2827912      | 23444664       | rs2827915      | 0.984          |
| 21| 27948923         | rs9977138      | 27954964       | rs1888433      | 0.914          |
| 21| 2916798          | rs2026242      | 29166748       | rs1048546      | 0.417          |
| 21| 2916798          | rs2026242      | 29178154       | rs2254638      | 0.688          |
| 21| 2916798          | rs2026242      | 29198282       | rs2248501      | 0.932          |
| 21| 2916798          | rs2026242      | 29266813       | rs2832147      | 0.570          |
| 21| 29166748         | rs1048546      | 29178154       | rs2254638      | 0.259          |
| 21| 29166748         | rs1048546      | 29198282       | rs2248501      | 0.402          |
| 21| 29166748         | rs1048546      | 29201887       | rs2832147      | 0.437          |
| 21| 29166748         | rs1048546      | 29266813       | rs2832147      | 0.299          |
| 21| 29166748         | rs1048546      | 29441956       | rs8129616      | 0.254          |
| 21| 29178154         | rs2254638      | 29198282       | rs2248501      | 0.717          |
| 21| 29178154         | rs2254638      | 29201887       | rs2832137      | 0.219          |
| 21| 29178154         | rs2254638      | 29266813       | rs2832147      | 0.458          |
| 21| 29198282         | rs2248501      | 29266813       | rs2832147      | 0.663          |
| 21| 29201887         | rs2832137      | 29441956       | rs8129616      | 0.520          |
| 21| 29932927         | rs1029224      | 29945889       | rs11088125     | 0.257          |
| 21| 29932927         | rs1029224      | 29964388       | rs932250       | 0.371          |
| 21| 29932927         | rs1029224      | 30073388       | rs363515       | 0.761          |
| 21| 29939211         | rs2249140      | 29945889       | rs11088125     | 0.461          |
| 21| 29939211         | rs2249140      | 30073388       | rs932250       | 0.303          |
| 21| 30062624         | rs459617       | 30068040       | rs455804       | 0.850          |
| 21| 30062624         | rs459617       | 30073388       | rs932250       | 0.307          |
| 21| 30068040         | rs455804       | 30073388       | rs932250       | 0.263          |
| 21| 35040142         | rs2246640      | 35045042       | rs2834626      | 0.201          |
| 21| 37934672         | rs717859       | 37934847       | rs2835850      | 0.979          |
| 21| 39567960         | rs7275773      | 39591768       | rs1984748      | 0.887          |
| 21| 39567960         | rs7275773      | 39599185       | rs8131150      | 1.000          |
| 21| 39591768         | rs1984748      | 39599185       | rs8131150      | 0.887          |
| 21| 39843109         | rs551558       | 39853205       | rs591457       | 0.945          |
| 21| 40514545         | rs2837512      | 40517596       | rs444584       | 0.707          |
| 21| 40514545         | rs2837512      | 40518055       | rs376508       | 0.707          |
| 21| 40514545         | rs2837512      | 40518170       | rs447940       | 0.705          |
| 21| 40514545         | rs2837512      | 40520243       | rs435386       | 0.699          |
| 21| 40514545         | rs2837512      | 40532666       | rs1882758      | 0.724          |
| 21| 40514545         | rs2837512      | 4053968        | rs4818122      | 0.625          |
| 21| 40514545         | rs2837512      | 40544164       | rs2837534      | 0.661          |
| 21| 40514545         | rs2837512      | 40545039       | rs2229797      | 0.672          |
| 21| 40517596         | rs444584       | 40518055       | rs376508       | 1.000          |
|   |   |   |   |   |
|---|---|---|---|---|
|   | 21 | 40517596 | rs444584 | 40518170 | rs447940 | 1.000 |
|   | 21 | 40517596 | rs444584 | 40520243 | rs435386 | 0.991 |
|   | 21 | 40517596 | rs444584 | 40532666 | rs1882758 | 0.915 |
|   | 21 | 40517596 | rs444584 | 40543968 | rs4818122 | 0.700 |
|   | 21 | 40517596 | rs444584 | 40544164 | rs2837534 | 0.796 |
|   | 21 | 40517596 | rs444584 | 40545039 | rs2222979 | 0.819 |
|   | 21 | 40518055 | rs376508 | 40518170 | rs447940 | 1.000 |
|   | 21 | 40518055 | rs376508 | 40520243 | rs435386 | 0.991 |
|   | 21 | 40518055 | rs376508 | 40532666 | rs1882758 | 0.915 |
|   | 21 | 40518055 | rs376508 | 40543968 | rs4818122 | 0.700 |
|   | 21 | 40518055 | rs376508 | 40544164 | rs2837534 | 0.796 |
|   | 21 | 40518055 | rs376508 | 40545039 | rs2222979 | 0.819 |
|   | 21 | 40518170 | rs447940 | 40520243 | rs435386 | 0.991 |
|   | 21 | 40518170 | rs447940 | 40532666 | rs1882758 | 0.915 |
|   | 21 | 40518170 | rs447940 | 40543968 | rs4818122 | 0.700 |
|   | 21 | 40518170 | rs447940 | 40544164 | rs2837534 | 0.796 |
|   | 21 | 40518170 | rs447940 | 40545039 | rs2222979 | 0.819 |
|   | 21 | 40520243 | rs435386 | 40532666 | rs1882758 | 0.923 |
|   | 21 | 40520243 | rs435386 | 40543968 | rs4818122 | 0.703 |
|   | 21 | 40520243 | rs435386 | 40544164 | rs2837534 | 0.786 |
|   | 21 | 40520243 | rs435386 | 40545039 | rs2222979 | 0.825 |
|   | 21 | 40532666 | rs1882758 | 40543968 | rs4818122 | 0.766 |
|   | 21 | 40532666 | rs1882758 | 40544164 | rs2837534 | 0.818 |
|   | 21 | 40532666 | rs1882758 | 40545039 | rs2222979 | 0.897 |
|   | 21 | 40543968 | rs4818122 | 40544164 | rs2837534 | 0.658 |
|   | 21 | 40543968 | rs4818122 | 40545039 | rs2222979 | 0.746 |
|   | 21 | 40544164 | rs2837534 | 40545039 | rs2222979 | 0.780 |
|   | 22 | 16508960 | rs5747306 | 16511078 | rs2401163 | 0.834 |
|   | 22 | 16508960 | rs5747306 | 16563623 | rs2587081 | 0.861 |
|   | 22 | 16511078 | rs2401163 | 16563623 | rs2587081 | 0.793 |
|   | 22 | 16687634 | rs5992861 | 16690110 | rs5992871 | 0.630 |
|   | 22 | 22848728 | rs6004064 | 22862142 | rs8139439 | 0.949 |
|   | 22 | 22848728 | rs6004064 | 22874482 | rs2267062 | 0.304 |
|   | 22 | 22862142 | rs8139439 | 22874482 | rs2267062 | 0.388 |
|   | 22 | 24563343 | rs9624915 | 24564918 | rs4822663 | 1.000 |
|   | 22 | 24718337 | rs916425 | 24734101 | rs9613081 | 0.311 |
|   | 22 | 26009808 | rs542981 | 26378449 | rs134028 | 0.311 |
|   | 22 | 26240138 | rs9625252 | 26242970 | rs9625253 | 0.549 |
|   | 22 | 27789634 | rs760627 | 27789732 | rs760628 | 0.699 |
|   | 22 | 27789634 | rs760627 | 27821706 | rs134661 | 0.267 |
| Chromosome | SNP1   | Position1 | SNP2   | Position2 | SNP3   | Position3 | r² |
|------------|--------|-----------|--------|-----------|--------|-----------|----|
| 22         | rs760628 | 27789732  | rs134661 | 27821706  |        |           |    |
| 22         | rs1004811 | 32139429  | rs1004811 | 32150256  |        |           |    |
| 22         | rs1476029 | 3847878   | rs5756080 | 3857913   |        |           |    |
| 22         | rs1476029 | 3847878   | rs132645 | 3878352   |        |           |    |
| 22         | rs1476029 | 3847878   | rs132648 | 3882348   |        |           |    |
| 22         | rs1476029 | 3847878   | rs132648 | 3882348   |        |           |    |
| 22         | rs1476029 | 3847878   | rs132648 | 3882348   |        |           |    |
| 22         | rs1476029 | 3847878   | rs132648 | 3882348   |        |           |    |
| 22         | rs1476029 | 3847878   | rs132648 | 3882348   |        |           |    |
| 22         | rs1476029 | 3847878   | rs132648 | 3882348   |        |           |    |
| 22         | rs1476029 | 3847878   | rs132648 | 3882348   |        |           |    |
| 22         | rs1476029 | 3847878   | rs132648 | 3882348   |        |           |    |
| 22         | rs1476029 | 3847878   | rs132648 | 3882348   |        |           |    |
| 22         | rs1476029 | 3847878   | rs132648 | 3882348   |        |           |    |
| 22         | rs1476029 | 3847878   | rs132648 | 3882348   |        |           |    |
| 22         | rs1476029 | 3847878   | rs132648 | 3882348   |        |           |    |
| 22         | rs1476029 | 3847878   | rs132648 | 3882348   |        |           |    |
| 22         | rs1476029 | 3847878   | rs132648 | 3882348   |        |           |    |
| 22         | rs1476029 | 3847878   | rs132648 | 3882348   |        |           |    |
| 22         | rs1476029 | 3847878   | rs132648 | 3882348   |        |           |    |
| 22         | rs1476029 | 3847878   | rs132648 | 3882348   |        |           |    |
| 22         | rs1476029 | 3847878   | rs132648 | 3882348   |        |           |    |
| 22         | rs1476029 | 3847878   | rs132648 | 3882348   |        |           |    |
| 22         | rs1476029 | 3847878   | rs132648 | 3882348   |        |           |    |
| 22         | rs1476029 | 3847878   | rs132648 | 3882348   |        |           |    |
| 22         | rs1476029 | 3847878   | rs132648 | 3882348   |        |           |    |
| 22         | rs1476029 | 3847878   | rs132648 | 3882348   |        |           |    |
| 22         | rs1476029 | 3847878   | rs132648 | 3882348   |        |           |    |
| 22         | rs1476029 | 3847878   | rs132648 | 3882348   |        |           |    |
| 22         | rs1476029 | 3847878   | rs132648 | 3882348   |        |           |    |
| 22         | rs1476029 | 3847878   | rs132648 | 3882348   |        |           |    |

1. Kellam, S.G. *et al.* Effects of a universal classroom behavior management program in first and second grades on young adult behavioral, psychiatric, and social outcomes. *Drug Alcohol Depend* **95** Suppl 1, S5-S28 (2008).
2. Wang, Y. *et al.* Depressed mood and the effect of two universal first grade preventive interventions on survival to the first tobacco cigarette smoked among urban youth. *Drug Alcohol Depend* **100**, 194-203 (2009).
3. Ialongo, N.S., Poduska, J.M. & Werthamer-Larsson, L. The distal impact of two first grade preventive interventions on conduct problems and disorder and mental
health service need and utilization in early adolescence. *Journal of Emotional and Behavioral Disorders* 9, 146-160 (2001).

4. Kellam, S.G. *et al.* Developmental epidemiologically based preventive trials: baseline modeling of early target behaviors and depressive symptoms. *Am J Community Psychol* 19, 563-84 (1991).

5. Liu, J.Z. *et al.* Meta-analysis and imputation refines the association of 15q25 with smoking quantity. *Nature genetics* 42, 436-40 (2010).

6. Thorgeirsson, T.E. *et al.* Sequence variants at CHRNA3-CHRNAS and CYP2A6 affect smoking behavior. *Nature genetics* 42, 448-53 (2010).

7. Genome-wide meta-analyses identify multiple loci associated with smoking behavior. *Nat Genet* 42, 441-7 (2010).

8. Robins, L.N., Helzer, J.E., Croughan, J. & Ratcliff, K.S. National Institute of Mental Health Diagnostic Interview Schedule. Its history, characteristics, and validity. *Arch Gen Psychiatry* 38, 381-9 (1981).

9. Fagerstrom, K.O. Measuring degree of physical dependence to tobacco smoking with reference to individualization of treatment. *Addict Behav* 3, 235-41 (1978).

10. Heatherton, T.F., Kozlowski, L.T., Frecker, R.C. & Fagerstrom, K.O. The Fagerstrom Test for Nicotine Dependence: a revision of the Fagerstrom Tolerance Questionnaire. *Br J Addict* 86, 1119-27 (1991).

11. Fagerstrom, K.O. & Schneider, N.G. Measuring nicotine dependence: a review of the Fagerstrom Tolerance Questionnaire. *J Behav Med* 12, 159-82 (1989).

12. Drgon, T.*et al.* Genome wide association for addiction: replicated results and comparisons of two analytic approaches. *PLoS One* 5, e8832.