

Feasibility of Genome-wide Association Analysis Using a Small Single Nucleotide Polymorphism Panel in an Apple Breeding Population Segregating for Fruit Skin Color

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ABSTRACT. Single-nucleotide polymorphisms (SNPs) have been used for a range of genetic studies and are now starting to be applied for marker-assisted selection in plant breeding programs. To identify SNP markers associated with red fruit skin color, we conducted a genome-wide association (GWA) analysis in an apple (*Malus ×domestica* Borkh.) breeding population comprising 94 phenotyped individuals using a 384-plex SNP assay. Linkage disequilibrium (LD) analysis indicated that LD extends over a long physical distance in the population (17 Mbp), indicating that a small number of generations separates the individuals. No significant association of anthocyanin content, overcolor, and colorimetric measures (a^* , b^* , L^* , a/b^* , and hue angle) with a marker was identified, although the apple fruit skin color locus has been previously located on apple linkage group 9. Our trial of a small SNP panel for GWA in apple breeding material has demonstrated the limitation of this approach for marker trait association.

Plant breeders worldwide are focusing on improving the prediction of phenotype from genotype. A range of genomic tools is now available to address this issue, including dense genetic maps and whole genome sequences. Large sets of molecular markers are being developed and our knowledge of the molecular control of a wide range of plant traits is growing speedily. Molecular markers are now widely used in plant breeding for the acceleration of genetic gain. Systems include marker-assisted selection (MAS) using either markers that are candidate genes for the trait of interest or are closely linked to chromosomal segments (Collard and Mackill, 2008) as well as

selection at the whole genome level (e.g., Kumar et al., 2012). The use of molecular markers for phenotypic prediction is especially attractive for long-lived woody crop plants, where characters related to fruiting are often expressed several years after crossing, the cost of raising plants in research orchards is high, and where some traits are difficult to assess.

In recent years, the application of SNP markers has gained much attention in both the scientific and plant breeding communities (Rafalski, 2002). SNPs are abundant and evenly distributed throughout the genomes of most plant species and their main advantage over other molecular markers is that they are the most abundant form of genetic variation within plant genomes. Considerable progress has been made both in the area of SNP discovery and SNP assay development. SNP discovery in silico is now feasible thanks to the availability of whole genome sequences of rosaceous species including strawberry [*Fragaria vesca* L. (Shulaev et al., 2011)], apple (Velasco et al., 2010), pear [*Pyrus bretschneideri* Rehd. (Wu et al., 2013)] and *Pyrus communis* (Chagné et al., 2014)], and peach [*Prunus persica* (L.) Batch (Verde et al., 2013)]. In apple, SNP markers

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were developed from large sets of cDNA sequences before the whole genome sequence became available (Chagné et al., 2008) and more recently have been identified using whole genome resequencing (Chagné et al., 2012a). Once SNPs linked to a trait have been identified and validated, they can be used by breeders to screen large sets of seedlings. The range of techniques for high-throughput SNP genotyping has evolved rapidly in recent years thanks to technological progress and several high-throughput platforms allow rapid and simultaneous genotyping of hundreds or thousands of plants with up to hundreds of thousands of SNPs. This includes high-throughput SNP arrays (Chagné et al., 2012a; Verde et al., 2012) and more recently genotyping by sequencing as the throughput of next-generation sequencing techniques (Elshire et al., 2011) has increased. The GoldenGate® assay (Illumina, San Diego, CA) has been the method of choice for researchers screening lower numbers of SNP markers, because it is capable of medium-density genotyping with 96 to 1536 SNPs per array (Fan et al., 2006). The GoldenGate® assay has been used for genetic analysis in several crop species: wheat [*Triticum aestivum* L. (Akhunov et al., 2009)], maize [*Zea mays* L. (Yan et al., 2010)], soybean [*Glycine max* (L.) Merr. (Hyten et al., 2008)], barley [*Hordeum vulgare* L. (Rostoks et al., 2006)], loblolly pine [*Pinus taeda* L. (Eckert et al., 2009)], and recently in apple (Khan et al., 2012) and peach (Martinez-Garcia et al., 2013).

SNP arrays have the potential to be used for a variety of applications in crop improvement, including genetic mapping and quantitative trait locus (QTL) analysis, diversity analysis, germplasm management and MAS as well as association studies (Yan et al., 2010). One methodology used for association analysis is GWA, which involves spanning the genome with a sufficient number of markers to enable detection of regions associated with the phenotype of interest. GWA is based on LD mapping and identifies markers that show a statistically significant association with phenotype in natural populations or germplasm collections (Myles et al., 2009). Once molecular markers linked to a trait of interest have been identified and validated, they can be used for MAS in wider breeding populations (Varshney et al., 2009). LD varies as a function of recombination frequency along the genome, history of the species, mating system as well as population structure (Gaut, 2003). Because the decay of LD is dependent on the history of the population used and its diversity, it is likely that plant material from breeding programs, which often use a limited number of founder individuals, will exhibit LD decay at a longer physical distance than more broadly based germplasm populations that are sampled over extensive natural ranges. GWA was recently reported for apple using an 8000-SNP array and a total population size of 1200 individuals, enabling the identification of SNPs associated to a range of traits (Kumar et al., 2013).

The accumulation of anthocyanin pigments in apple fruit is an important determinant of fruit quality, because red coloration of apple skin is a key factor for the acceptance of apple fruit by the marketplace and individual consumers. In general, red-colored varieties achieve higher market prices (Baughner et al., 1990; Iglesias and Alegre, 2006). Furthermore, red pigment content is implicated in the health attributes of apple fruit (Boyer and Liu, 2004). The main pigment responsible for red color in apples is cyanidin-3-galactoside, which belongs to the anthocyanin family (McGhie et al., 2005). Anthocyanins are derived from cinnamic acid by L-phenylalanine deamination,

a reaction catalyzed by phenylalanine ammonia-lyase (PAL) (Lancaster and Dougall, 1992). Both PAL activity and the development of red color are directly regulated by environmental factors such as light (Arakawa, 1991; Lancaster and Dougall, 1992; Saure, 1990; Ubi et al., 2006) and temperature (Faragher, 1983; Lin-Wang et al., 2011; Ubi et al., 2006; Xie et al., 2012) and are variable across cultivars (Curry, 1997; Dickinson and White, 1986; Iglesias et al., 2008). Although most of the genes encoding enzymes involved in anthocyanin biosynthesis are under the regulation of ultraviolet-B light and temperature, recent studies indicate that the overall regulation of expression of the anthocyanin biosynthetic genes is by a transcription factor belonging to the MYB family: *MdMYB1/MYB10* (Espley et al., 2007; Takos et al., 2006). This study investigating the use of a panel of 384 SNPs for identification of markers associated with red skin coloration using GWA analysis is a pilot study set up to evaluate the usefulness of this density of markers for trait mapping.

Materials and Methods

PLANT MATERIAL AND DNA ISOLATION. A total of 94 individuals segregating for skin color (derived from a single maternal parent and an unknown number of paternal parents) was selected from the joint Institut de Recerca i Tecnologia Agroalimentàries (IRTA) and New Zealand Plant & Food Research Ltd. pipfruit breeding program in Lleida, Spain. The trees were planted at the Gimenezs (Spain) IRTA research orchards in 2006 and grown at 1 × 3.4-m spacing using standard commercial management practices recommended for the area, including fertilizer application and disease and pest control. Leaf tissue was harvested from each genotype, freeze-dried, and stored at -80 °C until required. The leaf samples were ground to fine powder in liquid nitrogen and DNA was extracted using the DNeasy Plant Mini Kit (Qiagen, Hilden, Germany) according to the manufacturer's instructions.

PHENOTYPIC DATA FOR SKIN COLOR AND ANTHOCYANIN CONTENT. Five fruit from each tree/genotype were collected at optimum maturity (an average of approximately three) in a starch pattern index scale of 0 (low maturity) to 6 (over mature) (ENZA Fruit, Hastings, New Zealand) from the beginning of Aug. 2008 to the end of Oct. 2008. A total of 480 fruit was assessed within the 24 h after fruit harvest. Apple skin color was determined using three methods: visual assessment, colorimetry, and anthocyanin content. Overcolor was measured by a trained panel as the percentage of surface color using a visual scale from 0% (no blush) to 100% (fully colored) and expressed as the mean value of all fruits of the same genotype. Other assessments were at an equatorial location on the blushed side of each fruit. Colorimetric values were measured using a portable tristimulus colorimeter (Chroma Meter CR-200; Minolta Corp., Osaka, Japan). Chromaticity was expressed in L*, a*, and b* color space coordinates according to Commission Internationale de l'Eclairage. The L* value represents the relative lightness of colors with a range from 0 (black) to 100 (white), being small for dark colors and large for light colors. Both a* and b* scales extend from -60 to 60; a* ranges from green (-a*) to red (+a*) and b* ranges from blue (-b*) to yellow (+b*). Hue angle was calculated as described by McGuire (1992) and expressed in degrees; a*/b* was also calculated.

Total anthocyanins were extracted from 11-mm-diameter skin disks taken separately for each color measurement. The skin disks were held at 4 °C for 24 h in the dark in 10 mL of a solution of 50 methanol (26.4 M):1 HCl (35%):49 water and absorbance of the extracts was measured with a spectrophotometer (series 1000; Cecil Instruments, Cambridge, U.K.) at 532 nm. The anthocyanin concentration was subsequently determined using a molar extinction coefficient of 3.43×10^4 and data were expressed in nanomoles per square centimeter.

SNP MARKER DEVELOPMENT AND GENOTYPING. The 94 segregating individuals were genotyped with a panel of evenly spaced SNP markers spanning the entire apple genome using a 384-plex assay developed from a set of 1679 SNPs. These SNPs have been mapped in an integrated apple genetic map (Velasco et al., 2010) and are included in the International RosBREED SNP Consortium 8000-SNP array (Chagné et al., 2012a). Data were analyzed using GenomeStudio Version 1.0 software Genotyping Module (Illumina) with a Gencall threshold of 0.5.

STATISTICAL ANALYSIS. Descriptive statistics regarding phenotypic data (chromaticity values, anthocyanin content, and overcolor), including means, distributions and correlations, were generated using JMP 8.0 software (SAS Institute, Cary, NC).

The genome wide decay of the LD was calculated after removing alleles with minor frequency (MAF) lower than 5%. GDA 1.1 software (Lewis and Zaykin, 2001) was used to compute the composite disequilibrium coefficient (Δ_{ab}) between pairs of allele A and B at two different loci, either in the same or different LG, according to Weir (1996). For normalization, the interallelic correlation coefficient, r^2_{ab} , was calculated as in Weir (1996). The significance threshold, based on the null hypothesis of no linkage, was calculated by comparison with a χ^2 test with 1 df for $\alpha \leq 0.01$ ($\chi^2_{1df} = 6.635$) as in Zaykin (2004).

The association analysis was carried out using the GAPIT R package (Lipka et al., 2012). The genome-wide significance threshold was $\alpha \leq 0.01$ (which roughly equates to a comparison-wise probability value of 3.4×10^{-5} assuming 295 SNPs were tested). A regular mixed linear model that takes into account population structure (Q matrix) and kinship (K matrix) was used for the association analysis. The Q matrix takes into account the first six principal components of a principal component analysis (PCA). The K matrix is a measure of relative kinship and quantifies the probability that two homologous genes are identical by descent. The K matrix was generated according to the method of VanRaden (2008). Both the kinship and the structure were computed directly using GAPIT.

Results

PHENOTYPIC VARIATION FOR SKIN COLOR AND ANTHOCYANIN CONCENTRATION. Half of the individuals in the germplasm set exhibited colored fruit (orange-red, pink, red, or dark red) and the other half had non-colored fruit when the data were expressed as the mean percentage of overcolor in fruit harvested from an individual genotype. Fruit coloration was distributed from blushed fruit (10% to 20% surface covered), bicolor fruits (20% to 60%) to colored fruits (60% to 100%) (Supplemental Fig. 1). Of all colored fruit, 58.1% exhibited a blush pattern, whereas 41.9% had a striped pattern. Colorimeter L^* values (lightness/darkness) varied from 35.51 (dark colors) to 80.13 (light colors), a^* had a range from green (−17.63, negative value) to red colors (41.27, positive value), and b^* values showed a range of different yellow colors between 14 and

59.48. Hue angle value varied from a minimum of 22.5 to a maximum of 111.7; where lower values of hue angle indicated higher fruit coloration. Anthocyanin concentration varied from 6.02 to 77.66 nmol·cm^{−2} (Supplemental Table 1).

The regressions for anthocyanin concentration vs. L^* , hue angle, and overcolor provided coefficients of determination (R^2) of 0.97, 0.97, and 0.94 ($P \leq 0.001$), respectively (Fig. 1). The phenotypic correlations between color traits (chromaticity values, anthocyanin concentration, and overcolor) were highly significant for all traits [$P < 0.001$ (Table 1)].

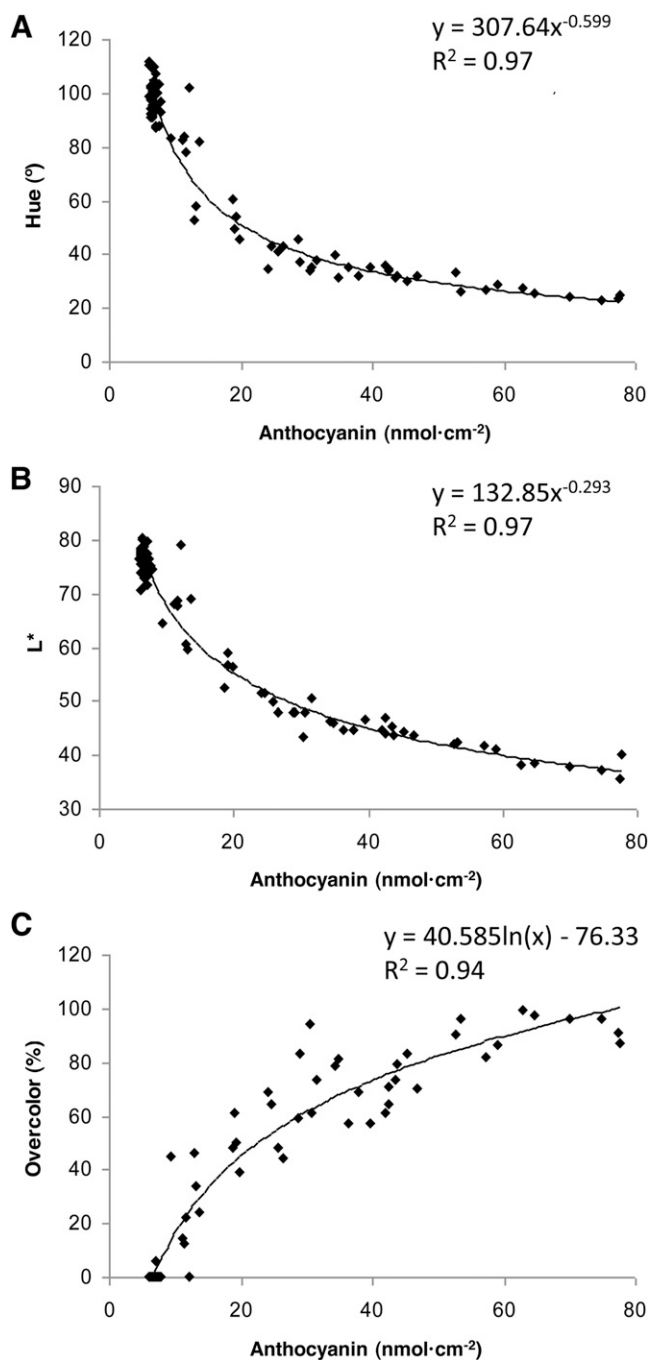


Fig. 1. Relationship between extractable anthocyanin content and hue angle (A) L^* value (B), and overcolor (C) measured for fruit from 94 apple genotypes harvested in 2008. Regression significance is at $P \leq 0.001$.

Table 1. Pearson's correlation coefficients for skin color phenotypic measurements (L* trait, a* trait, b* trait, hue angle, a*/b* trait, and anthocyanin content) determined on 96 apple genotypes in a breeding population from the Institut de Recerca i Tecnologia Agroalimentàries–New Zealand Plant & Food Research Ltd. breeding program.

	L*	a*	b*	Hue	a*/b*	Anthocyanin content (nmol·cm ⁻²)
Overcolor	-0.98	0.95	-0.93	-0.97	0.97	0.92
L*		-0.95	0.94	0.98	-0.98	-0.92
a*			-0.88	-0.99	0.96	0.84
b*				0.92	-0.93	-0.89
Hue					-0.98	-0.89
a*/b*						0.95

SNP POLYMORPHISM IN THE GERMPLASM SET. Of the 384 SNP markers screened over the 94 individuals (Supplemental Fig. 2), 309 (80.5%) were polymorphic, displaying three clear clusters corresponding to the expected genotypes (e.g., AA homozygote, BB homozygote, and AB heterozygote). Ambiguous data points located between clusters were scored as missing data. Of the remaining markers, 53 (13.8%) were monomorphic and 22 (5.7%) failed to amplify.

LINKAGE DISEQUILIBRIUM DECAY ANALYSIS. The 295 SNPs with a MAF higher than 0.05 (Supplemental Table 2; Supplemental Figs. 2 and 3) were considered for the LD analysis, whereby the interallelic r^2 values, namely the association between each of the alleles at two loci, were calculated for a total of 43,345 pairs of alleles, 2,565 of which involved intrachromosome comparison. When the decay of r^2 against the physical distance between the pairs of loci based on the apple genome assembly (Velasco et al., 2010) was calculated (Fig. 2), the curves that describe the LD decay with distance reach the r^2 significance value at 17 Mbp ($r^2 \geq 0.07$). When pairs of SNPs with a distance shorter than 10 Mbp were considered, the average r^2 and the

percentage of comparison with $r^2 \geq 0.07$ were 0.29% and 67.8%, respectively. These values decrease to 0.18% and 49.4% considering all the intrachromosomal comparison and 0.02% and 4.1% considering the interchromosomal comparisons.

KINSHIP ANALYSIS AND POPULATION STRUCTURE. The kinship matrix (Supplemental Fig. 4) shows that the great majority of the individuals share between one-fourth and half of the genome.

The population structure (Supplemental Fig. 5) was evaluated through a PCA analysis. The first principal component highlights the presence of two clusters (perhaps indicating the involvement of at least two pollen parents), whereas the separation on the second component was not as clear with the individuals being evenly distributed.

MARKER-TRAIT ASSOCIATIONS. The genotypic data obtained for the 295 polymorphic SNP markers with MAF greater than 0.05 were used to test the association with the phenotypic data. When the log10 of the probability value was plotted against the position of the SNPs based on the 'Golden Delicious' apple genetic map (Velasco et al., 2010) (Fig. 3), no association was found for a genome-wide threshold of $\alpha < 0.01$. Nevertheless,

a weak association was found with marker GDsnp00766 and overcolor ($P = 0.006$) with anthocyanin concentration ($P = 0.019$) as well as colorimetric traits L* ($P = 0.006$), b* ($P = 0.005$), a*/b* ($P = 0.008$), and hue ($P = 0.005$) (Table 2). However, such P values were not significant at the genome-wide or marker level. Based on the LG9 assembly, marker GDsnp00766 is located 1.4 Mbp upstream of the anthocyanin regulating *MYB10* gene.

Discussion

Our use of a 384-plex SNP assay for GWA analysis is a trial of the application of a low-throughput multiplexed SNP assay in an apple breeding population. The panel of 384 SNPs used for the assay had been previously validated in 'Golden Delicious' apple using the lower-throughput 48-plex SNPLex™ technique (Applied Biosystems, Foster City, CA) (Micheletti et al., 2011; Velasco et al., 2010). We found that 309 SNPs (80.5%) were

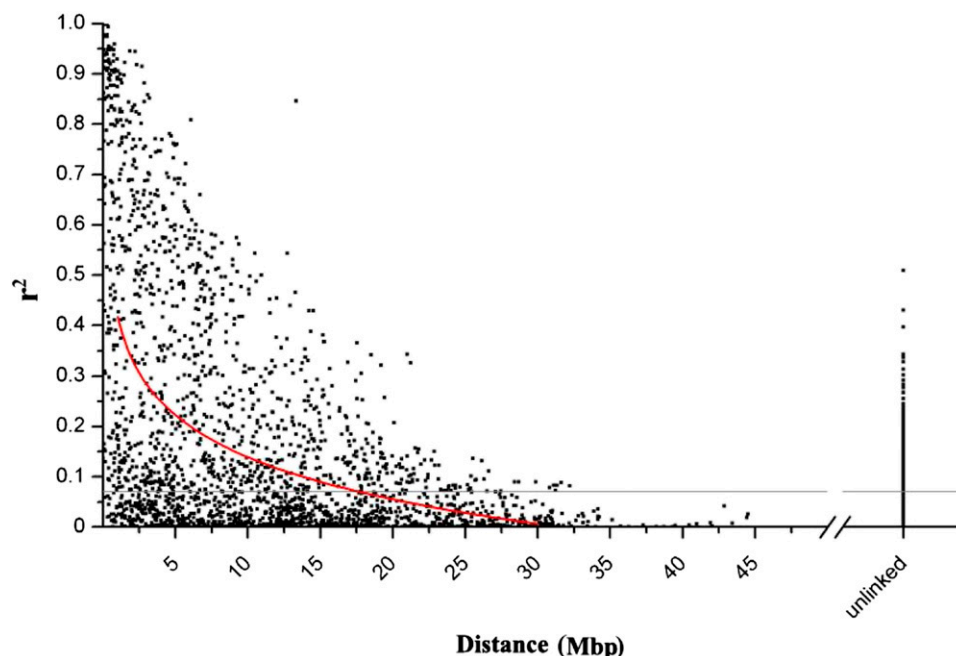


Fig. 2. Variation of linkage disequilibrium (LD) against physical distance in an apple population of 94 seedlings. The variation of r^2 value between alleles of marker placed either in same and different linkage groups with physical distance in megabase pairs. All the interchromosome comparison was reported in relation to the unlinked label on the x-axis. The trend line indicating the decay of the r^2 with the distance was the logarithmic fitting of the intrachromosome comparison. The horizontal line represents the significance threshold at $\alpha \leq 0.01$.

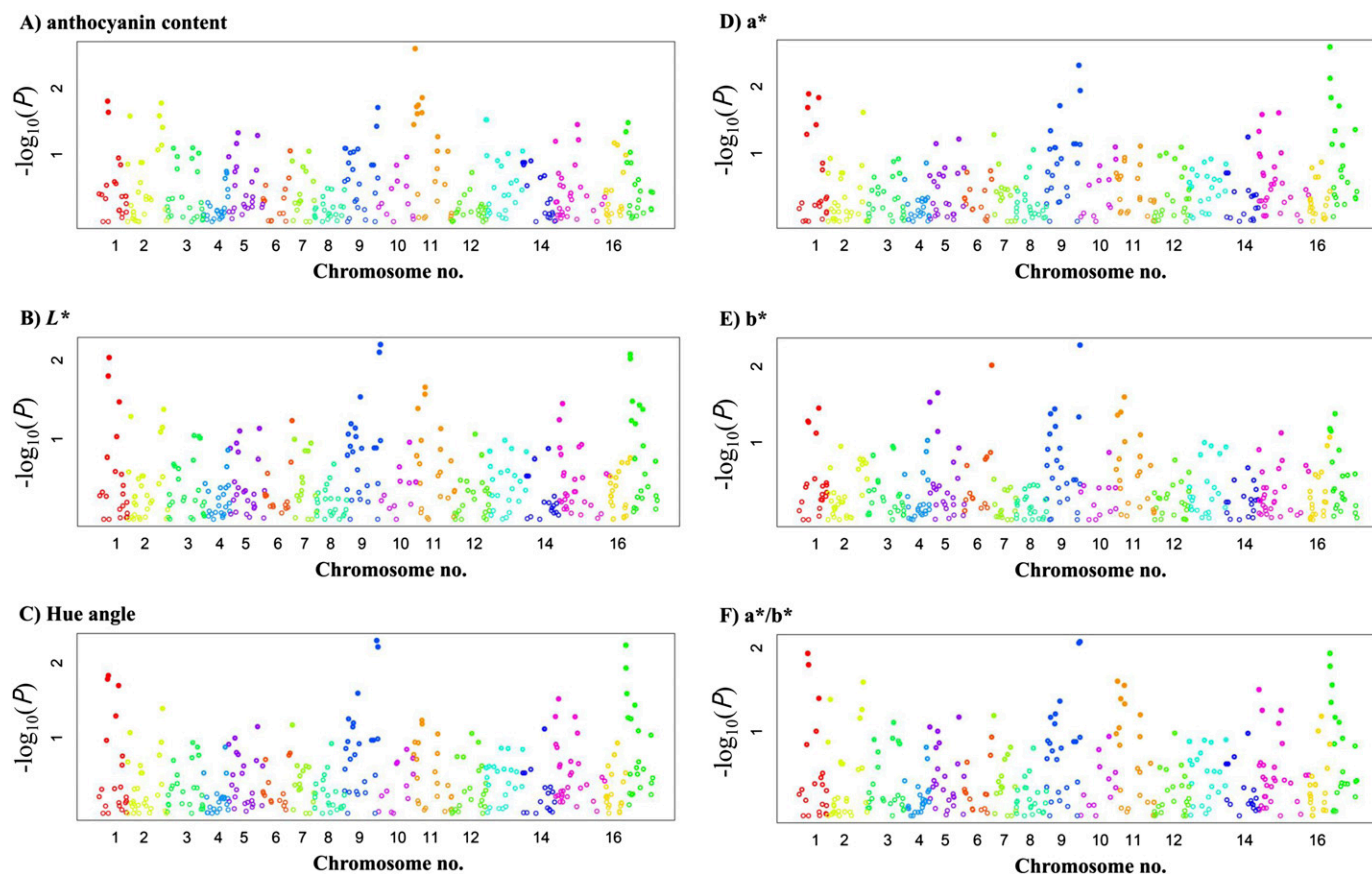


Fig. 3. Genome scan showing $-\log(p)$ value for marker association with (A) anthocyanin content, (B) L^* trait, (C) hue angle, (D) a^* trait, (E) b^* trait, and (F) a^*/b^* trait determined on fruit from 94 apple genotypes in a breeding population in Lleida, Spain, in 2008.

polymorphic, of which 295 with MAF greater than 0.05 were useful for association analysis in our study. This high degree of SNP transferability between ‘Golden Delicious’ and our set of individuals is similar to that obtained by Micheletti et al. (2011) (84%) in a broader-based set of 123 *M. ×domestica* accessions that included 119 elite selections, founders and old cultivars, and four rootstock cultivars.

The number of polymorphic SNPs we used enabled us to cover the apple genome at an approximate density of one marker every 4 cM based on a genetic length of 1200 cM (Velasco et al., 2010) and one marker every 2.5 Mbp based on an approximate genome size of 740 Mbp for apple. This density is a significant increase compared with the microsatellite marker systems previously used for genome scans in apple (Patocchi et al., 2005); however, it is of lower density than the SNP array used by Kumar et al. (2013). Target marker density for GWA studies is dictated by the rate of LD decay across the genome; if the level of LD is low, GWA analysis may be difficult because of the high density of markers required; however, the resolution will be very high. On the other hand, if the LD is extensive, whole genome scans are feasible using a lower density of markers; however, conversely the resolution will be limited (Rafalski, 2002). Our analysis indicated that LD extends a large physical distance in our population, which might have enabled scanning of the genome for a marker-trait association using the 384-plex SNP array. However, a GWA analysis for red skin coloration in our population did not identify any significant marker association with red skin color.

Although associations with a marker on LG9 and phenotypes were weakly significant ($P > 0.001$), they were below the genome-wide threshold. However, the weak association suggested on LG9 is consistent with previous studies on the position of loci controlling red coloration in apple. A major locus for skin color was mapped in a segregating population at the distal end of LG 9 (Cheng et al., 1996; Maliepaard et al., 1998) and furthermore, recent research on the molecular control of anthocyanin biosynthesis in apple has shown that a transcription factor that controls fruit skin and flesh and foliage color (*MYB10/MYB1*) (Espley et al., 2007; Takos et al., 2006) maps at the distal end of LG 9 (Chagné et al., 2007). In addition, alleles of *MYB10/MYB1* were associated with skin color in a candidate gene-based association study in the U.S. breeding material (Zhu et al., 2011). Based on the apple genome assembly (Velasco et al., 2010), *MYB10* is located 1.4 Mbp from the closest marker we found to be weakly associated with skin color (GDSnp00766). Although a significant association between *MYB10* and red skin color was expected in this study, our GWA strategy using a population of 94 individuals and 309 markers could not retrieve the association that had been demonstrated previously using the candidate gene approach.

Our GWA analysis is a pilot study demonstrating that a marker density of 309 polymorphic SNPs is insufficient to identify linkage between markers and a trait governed by a strong effect QTL in an apple breeding population material derived from a narrow genetic base. This indicates that careful consideration of the size of the effect is needed before using

Table 2. List of single-nucleotide polymorphisms (SNPs) that showed significant association with skin color traits [L* trait, a* trait, b* trait, hue angle, a*/b* trait, type, and anthocyanin content (nmol·cm⁻²)] determined for the 96 apple genotypes from the Institut de Recerca i Tecnologia Agroalimentàries–New Zealand Plant & Food Research Ltd. breeding program.

Skin color trait	Marker	Linkage group	Position (bp)	P value	log ₁₀ (P)	R ² without SNP	R ² with SNP
Anthocyanin concentration	GDsnp02281	11	1622012	0.003	2.60	0.27	0.35
Anthocyanin concentration	GDsnp01470	1	10713804	0.016	1.81	0.27	0.35
Anthocyanin concentration	GDsnp00120	2	31832613	0.017	1.78	0.27	0.32
Anthocyanin concentration	GDsnp00418	11	4580858	0.018	1.75	0.27	0.32
Anthocyanin concentration	GDsnp00351	11	3079914	0.019	1.72	0.27	0.31
Anthocyanin concentration	GDsnp00766	9	30472702	0.019	1.71	0.27	0.31
Overcolor	GDsnp00766	9	30472702	0.006	2.20	0.27	0.31
Overcolor	GDsnp00205	9	29375585	0.010	1.98	0.35	0.40
Overcolor	GDsnp00091	17	50402	0.012	1.94	0.35	0.40
Overcolor	GDsnp00192	17	244794	0.012	1.92	0.35	0.40
Overcolor	GDsnp01470	1	10713804	0.013	1.89	0.35	0.40
L*	GDsnp00766	9	30472702	0.019	1.71	0.35	0.41
L*	GDsnp00091	17	50402	0.008	2.07	0.35	0.40
L*	GDsnp01500	1	11455127	0.009	2.03	0.35	0.40
Hue	GDsnp00091	17	50402	0.006	2.24	0.33	0.39
Hue	GDsnp00766	9	30472702	0.006	2.21	0.33	0.39
Hue	GDsnp01500	1	11455127	0.015	1.83	0.33	0.38
b*	GDsnp00766	9	30472702	0.005	2.28	0.32	0.39
b*	GDsnp02138	6	24959354	0.010	2.02	0.32	0.38
a*	GDsnp00091	17	50402	0.003	2.59	0.33	0.41
a*	GDsnp00766	9	30472702	0.011	1.94	0.33	0.38
a*/b*	GDsnp00766	9	30472702	0.008	2.08	0.32	0.38
a*/b*	GDsnp01470	1	10713804	0.012	1.93	0.32	0.37
Type	GDsnp00178	17	8360963	0.007	2.14	0.11	0.19

such a GWA strategy. It is well known that a number of other polygenic quantitative traits of high agronomic importance in apple are controlled by a few large to medium effects as well as a multitude of small effect QTLs (Chagné et al., 2012b; Gardiner et al., 2012; Khan et al., 2007; Kumar et al., 2012; Soufflet-Freslon et al., 2008) and we advise the use of higher-density SNP arrays for GWA analysis of such traits. Although the results from GWA analysis in a breeding population comprising seven full-sib families suggested that medium- to large-sized QTLs can be detected using an 8000-SNP array (Chagné et al., 2012a; Kumar et al., 2013), we believe that a larger array [e.g., the recent 20,000-SNP array developed by the FruitBreedomics project (Laurens et al., 2010)] will be needed for identifying smaller effect QTLs.

Conclusion

This study is an example of a whole genome scan performed for association analysis in apple. The scan was not successful in identifying markers associated with a large effect QTL of which we had prior knowledge. We have demonstrated that screening with high-density SNP arrays is required to identify an association between markers and large effect QTLs in a breeding population. For identification of marker associations with agronomically significant traits that are controlled by few large effect QTLs, we suggest GWA analysis of an existing breeding population using a SNP panel of 20,000 markers as an alternative approach to QTL analysis of full-sib populations.

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Supplemental Table 1. Phenotypic data for red skin coloration in an apple breeding population of 94 seedlings. Red skin coloration was measured as percentage of overcolor, colorimetric measurement, anthocyanin concentration.

Accession no.	Overcolor (%)	L^*	a^*	b^*	Hue	a/b	Anthocyanin concn (nmol·cm ⁻²)
EX1	39	56.13	29.84	30.51	45.66	1	19.91
EX3	6	73.54	2.19	47.83	87.54	0.04	7.18
EX4	48	49.75	28.15	24.33	40.87	1.19	25.85
EX5	95.8	37.24	32.88	14	22.95	2.38	74.84
EX10	57	44.5	29.48	20.76	35.12	1.42	36.4
EX11	57	46.42	33.46	23.79	35.33	1.42	39.71
EX15	61	58.78	32.01	37.54	49.51	0.86	19.07
EX16	73	45.17	30.14	18.23	31.07	1.67	43.63
EX18	86	41.12	35.77	19.41	28.47	1.87	59.1
EX20	99.2	38.12	28.26	14.74	27.36	1.97	62.87
EX22	83	47.8	34.44	25.99	37.06	1.33	29.1
EX25	45	64.53	5.42	44.33	82.91	0.13	9.44
EX26	90.8	35.51	33.24	14.24	23.12	2.35	77.49
EX27	73	50.59	36.16	27.9	37.82	1.31	31.6
EX29	59	47.82	30.14	30.78	45.55	1.05	28.9
EX33	97	38.36	33.98	16.19	25.17	2.17	64.8
EX37	64	51.45	30.25	27.58	42.5	1.11	24.73
EX38	0	79.09	-7.83	40.59	101	-0.2	6.81
EX39	34	59.52	22.37	35.26	57.76	0.68	13.32
EX40	61	47.91	34.14	23.86	34.99	1.43	30.74
EX41	79	43.73	37.25	22.97	31.69	1.63	43.84
EX42	0	75.12	-3.59	49.92	94.28	-0.08	6.58
EX43	0	73.24	-8.81	43.69	101.37	-0.2	6.66
EX45	71	46.92	31.14	21.39	34.63	1.52	42.59
EX47	70	43.65	40.96	25.34	31.62	1.63	46.91
EX50	0	76.68	-5.03	55.37	95.41	-0.1	6.69
EX51	0	78.88	-8.5	41.99	101.52	-0.2	12.28
EX52	0	76.34	-14.17	40.2	109.44	-0.35	6.78
EX53	0	75.34	-3.58	52.21	94.02	-0.07	6.29
EX55	0	78.8	-8.93	47.83	100.56	-0.19	6.7
EX58	0	74.24	-14.76	44.13	108.7	-0.34	6.59
EX60	50	56.61	22.41	30.51	53.78	0.77	19.28
EX61	0	75.63	-3.16	49.11	93.93	-0.07	7.06
EX63	0	76.42	-8.36	42.24	101.15	-0.2	6.76
EX66	0	73.26	-10.27	47.4	102.25	-0.22	6.7
EX68	0	77.54	-7.58	43.51	99.87	-0.17	6.52
EX69	0	77.32	-14.61	48.36	106.75	-0.3	7.16
EX72	0	78.69	-7.84	43.98	100.11	-0.18	6.62
EX73	0	79.53	-7.09	42.37	99.64	-0.17	7.32
EX74	69	51.35	37.13	25.4	34.32	1.5	24.23
EX75	0	76.5	-10.88	46.31	103.22	-0.24	7.52
EX76	0	75.25	-1.55	53.2	91.76	-0.03	6.56
EX78	0	77.47	-0.97	53.83	91.09	-0.02	6.28
EX82	0	80.13	-5.5	43.68	97.5	-0.13	6.58
EX84	0	78.67	-8.73	40.94	102.14	-0.22	6.41
EX85	0	75.38	-7.23	52.15	97.95	-0.14	6.58
EX86	0	77.21	-7.42	47.97	98.81	-0.16	6.52
EX88	0	76.27	-17.1	45.73	110.5	-0.38	6.02
EX89	0	75.77	-8.43	52.97	99.05	-0.16	6.57
EX90	23.75	68.85	5.86	42.05	81.5	0.15	13.77
EX93	0	79.99	-6.94	46.95	98.52	-0.15	6.52
EX101	0	78.1	-7.2	44.74	99.16	-0.16	6.48
EX102	78.75	46.33	31.52	26.39	39.46	1.3	34.27
EX103	0	74.86	-2.72	48.35	93.31	-0.06	6.97
EX105	83	44.21	40.78	23.45	29.89	1.74	45.43
EX106	0	74.29	-2.14	52.23	92.73	-0.05	7.79

Continued next page

Supplemental Table 1. Continued.

Accession no.	Overcolor (%)	L^*	a^*	b^*	Hue	a/b	Anthocyanin concn (nmol·cm ⁻²)
EX107	69	44.69	32.94	20.5	31.96	1.61	37.95
EX109	0	76.92	-9.46	43.35	102.59	-0.23	6.32
EX110	48	52.37	19.03	33.83	60.32	0.58	18.8
EX115	0	77.29	-9.57	45.85	101.8	-0.21	6.35
EX117	0	72.89	-12.18	46.56	104.66	-0.26	6.77
EX120	0	70.42	-17.63	43.77	111.78	-0.4	6.23
EX121	90	41.84	32.01	20.73	32.88	1.56	52.86
EX123	0	71.16	-5.13	54.5	95.46	-0.1	6.62
EX124	0	71.47	-4.64	49.37	95.62	-0.1	7.28
EX125	12.5	67.62	5.33	50.33	83.7	0.11	11.59
EX128	0	75.99	-0.57	59.48	90.57	-0.01	6.51
EX130	0	75.25	-2.37	52.62	92.58	-0.05	6.79
EX133	0	74.96	2.88	57.72	87.41	0.05	7.75
EX135	22	68.71	9.79	44.72	77.66	0.22	11.67
EX136	0	77.45	-2.19	57.4	92.15	-0.04	6.45
EX137	0	77.73	-3.72	58.08	93.75	-0.07	6.82
EX139	0	74.42	-5.8	52.24	96.44	-0.11	7.9
EX141	0	75.5	-6.82	53.38	97.22	-0.13	6.74
EX142	0	73.72	-3.23	44.89	94.17	-0.07	6.35
EX143	0	75.32	-5.6	53.65	96	-0.11	7.09
EX145	14	68.03	5.66	43.04	82.41	0.14	11.26
EX146	0	75.01	-7.45	42.34	100	-0.18	6.5
EX157	95.8	42.32	41.27	19.96	25.83	2.07	53.38
EX162	46	60.5	21.36	27.65	52.62	0.78	13.08
EX164	0	77.62	-7.43	50.29	98.43	-0.15	6.12
EX165	96	37.93	33.15	14.83	24.04	2.25	69.99
EX168	0	73.09	-6.48	46.56	97.98	-0.14	6.68
EX169	94	43.43	31.61	21.21	33.96	1.5	30.46
EX173	61	44.68	33.73	24.21	35.73	1.44	42.16
EX174	0	78.4	-6.59	45.98	98.19	-0.14	6.35
EX178	87	39.9	36.48	16.87	24.77	2.18	77.66
EX182	81.25	45.84	35.39	20.99	30.86	1.69	34.93
EX187	82	41.75	33.19	16.46	26.35	2.03	57.31
EX188	0	73.14	1.09	44.47	86.91	0.07	7.22
EX189	0	77.42	-7.74	51.37	98.66	-0.15	6.17
EX191	44	47.84	29.4	26.97	42.79	1.1	26.55
EX192	0	78.06	-5.22	43.21	97.33	-0.13	6.26
EX193	64	43.98	33.7	22.32	33.55	1.57	42.51

Supplemental Table 2. Genotypic data and marker information used for association analysis in an apple breeding population of 94 seedlings. The physical location of single nucleotide polymorphisms (SNPs) is given based on the ‘Golden Delicious’ genome assembly (“-” = missing genotypic data).

SNP name		Linkage group Physical location (bp) Individuals								
		EX1	EX3	EX4	EX5	EX10	EX11	EX15	EX16	EX18
EX20	EX22	EX25	EX26	EX27	EX29	EX33	EX37	EX38	EX39	EX40
EX41	EX42	EX43	EX45	EX47	EX50	EX51	EX52	EX53	EX55	EX58
EX60	EX61	EX63	EX66	EX68	EX69	EX72	EX73	EX74	EX75	EX76
EX78	EX82	EX84	EX85	EX86	EX88	EX89	EX90	EX93	EX101	EX102
EX103	EX105	EX106	EX107	EX109	EX110	EX115	EX117	EX120	EX121	EX123
EX124	EX125	EX128	EX130	EX133	EX135	EX136	EX137	EX139	EX141	EX142
EX143	EX145	EX146	EX157	EX162	EX164	EX165	EX168	EX169	EX173	EX174
EX178	EX182	EX187	EX188	EX189	EX191	EX192	EX193			
GDsnp00014	1	3056859		GG	GG	CG	GG	CG	GG	GG
CG	CC	CG	CG	GG	CG	CG	CG	CG	GG	CG
CG	GG	CG	CG	CG	CC	-	CC	CC	CG	CG
GG	CC	GG	CG	CC	GG	GG	GG	CC	CC	CC
GG	CG	CG	GG	GG	CG	-	GG	GG	CC	GG
CG	CG	GG	CC	CC	CC	GG	CG	CG	CG	CG
CG	CG	CG	CG	GG	CG	GG	CG	CC	GG	CG
CG	CG	GG	CC	CC	CG	-	GG	GG	CG	CG
CG	CG	GG	CC	CC	GG	CG	CG	CG	CC	
GDsnp00152	1	5384623		AA	AA	AG	AA	AG	AA	AA
AA	AG	AG	AG	AA	AG	AG	AG	AG	AA	AG
AG	AA	AG	AG	AG	GG	AG	GG	GG	AG	AG
AA	GG	AA	AG	GG	AA	AA	AA	GG	GG	GG
AA	AG	AG	AA	AA	AG	AG	AA	AA	GG	AA
AG	AG	AA	GG	GG	GG	AA	AG	AG	AG	AG
AG	AG	AG	AG	AA	AG	AA	AG	GG	AA	AG
AG	AG	AA	GG	GG	AG	AA	AA	AG	AG	AG
AG	AG	AA	GG	GG	AA	AG	GG	AG	GG	
GDsnp02428	1	6628041		CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	-	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
GDsnp00533	1	8879872		AG	GG	AG	GG	AG	GG	AG
GG	AA	AA	AG	GG	AG	AG	AG	AG	GG	AG
AG	AG	AA	AA	AG	AA	AG	AA	AA	GG	AG
GG	AG	GG	AG	AA	AG	GG	GG	AA	AA	AA
GG	AA	AG	AG	GG	AA	AA	GG	GG	AA	GG
AG	AG	GG	AA	AA	AG	GG	AG	AG	AG	AG
AG	AG	AG	GG	GG	AG	AG	AA	AA	GG	AG
AG	AG	GG	AA	AA	AG	AG	GG	AG	AG	AG
AA	AG	GG	AG	AA	AA	AA	AA	AG	AA	
GDsnp00631	1	9692952		AA	AA	AA	AA	AA	AA	AA
AA	AT	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AT	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AT
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AT	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA

Continued next page

Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp01470	1	10713804		CC	CC	CC	CC	CC	CC	CC
CG	CG	CC	CC	CC	CC	CC	CC	CG	CC	CC
CC	CC	CG	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CG
CC	CC	CC	CC	CC	CC	-	CC	CC	CC	CC
CC	CC	CC	CG	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
GDsnp00697	1	11348920		AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	-	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	-	AA	AA	AA	AA	AA	AA
AA	AA	AA	-	AA	AA	-	AA	AA	AA	AA
GDsnp01500	1	11455127		AA	AA	AA	AA	AA	AA	AA
AG	AA	AA	AG	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AG	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AG	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AG	AA	AA	AA	AA
GDsnp00250	1	16992156		AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AG	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AG	AG
AA	AA	AA	AA	AA	AA	-	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AG	AA	AA	AA	AA
GDsnp01676	1	18252811		AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AT	AT	AA	AA
AA	AA	AA	AA	AT	AT	AA	AA	AA	AA	AA
AA	AA	AA	AA	AT	AA	AA	AA	AT	AA	AT
AA	AA	AA	AA	AA	AA	AA	AA	AT	AT	AA
AA	AA	AA	AA	AA	AT	AA	AA	AA	AA	AA
AA	AA	AT	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AT	AA	AA	AA	AA
GDsnp00087	1	20622641		AA	AA	AA	AA	AA	AA	AA
AG	AA	AA	AG	AA	AA	AA	AA	AG	AA	AA
AA	AA	AG	AA	AA	AA	AA	AG	AG	AA	AA
AA	AA	AA	AA	AG	AG	AA	AA	AA	AG	AG
AA	AA	AA	AA	AG	AA	AG	-	AG	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AG	AG	AA
AA	AA	AA	AA	AA	AG	AA	AG	AA	AA	AA
-	AA	AG	AA	AG	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AG	AA	AA	AA	AA

Continued next page

Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp00674	1	20963765		GG	GG	AA	GG	AG	GG	GG
AG	AA	AA	AG	GG	AG	AG	AG	AA	GG	AG
AG	GG	AA	AG	AG	AA	AA	AA	AA	AG	AA
AG	AG	AG	AG	AA	AG	AA	AG	AG	AA	AG
GG	AG	AA	AG	AG	AG	AG	AG	AG	AG	AG
AG	AG	GG	AG	AA	AG	GG	AA	AG	AG	AG
AG	AA	AG	GG	GG	AG	GG	AG	AG	GG	AG
GG	AG	AA	AG	AG	AG	AG	AG	AG	AG	AG
AG	AG	AG	GG	AA	GG	AG	AA	AG	AA	
GDsnp00252	1	21447381		CC	CC	AC	CC	AC	CC	CC
CC	AC	AA	AC	CC	CC	CC	AC	AA	AC	AC
CC	CC	AA	CC	AC	AA	AC	AC	AC	AC	AA
AC	AC	AC	AC	AC	CC	AC	AC	AC	AC	AC
AC	AC	AC	AC	AC	AC	AC	AC	CC	AC	CC
CC	AC	CC	AC	AC	AC	CC	AA	CC	AC	AC
CC	AA	AC	CC	CC	CC	CC	AC	AC	CC	AC
CC	AC	AC	CC	AC	AC	AC	AC	AC	AC	CC
AC	AC	AC	CC	AA	CC	CC	AA	CC	AC	
GDsnp00761	1	22565180		AT	AT	AT	AT	AT	AT	AT
AT	AT	AT	AT	AT	AT	AT	AT	AA	AT	AT
AT	AT	AA	AT	AT	AT	AT	AT	AT	AT	AT
AT	AT	AT	AT	AT	AT	AT	AT	AT	AT	AT
AT	AT	AT	AT	AT	AT	AT	AT	AT	AT	AT
AT	AT	AT	AT	AT	AT	AT	AT	AT	AT	AT
AT	AT	AT	AT	AT	AT	AT	AT	AT	AT	AT
AT	AT	AT	AT	AT	AT	AT	AT	AT	AT	AT
AT	AT	AT	AT	AT	AT	AT	AT	AT	AT	AT
GDsnp00361	1	23735335		GG	GG	CG	GG	CG	CG	GG
CG	CG	CC	CG	GG	GG	GG	CG	CC	CG	CG
GG	GG	CC	GG	CG	CC	CC	CG	CG	CG	CC
CG	CG	CG	CG	CG	GG	CG	CG	CG	CG	CG
CG	CG	CG	CG	CG	CG	-	CG	GG	CG	GG
GG	CG	GG	CG	CG	CG	CG	CC	GG	CG	CG
GG	CC	CG	GG	CG	GG	GG	CG	CG	GG	CG
GG	CG	CG	GG	-	CG	CG	CG	CG	CC	GG
CG	CG	CG	GG	CC	GG	GG	CC	CG	CG	
GDsnp01035	1	23879768		GG	GG	AG	GG	AG	AG	AG
AG	AG	GG	AG	AG	AG	AG	GG	GG	AG	GG
AG	AG	GG	AG	GG	GG	AG	GG	GG	GG	GG
GG	GG	AG	GG	AG	AG	AG	GG	GG	AG	GG
GG	AG	GG	GG	AG	AG	GG	GG	AG	AG	AG
AG	GG	GG	GG	AG	GG	GG	GG	AG	GG	GG
AG	GG	GG	GG	GG	AG	AG	AG	GG	GG	GG
AG	AG	AG	GG	GG	GG	-	AG	GG	GG	AG
AG	AG	GG	AG	GG	GG	AG	GG	AG	AG	
GDsnp00782	1	24113589		GG	GG	AG	GG	AG	AG	AG
AG	AG	GG	GG	AG	AG	AG	GG	GG	AG	GG
AG	AG	GG	AG	GG	GG	GG	GG	GG	GG	GG
GG	GG	AG	GG	AG	AG	AG	GG	GG	AG	AG
GG	AG	GG	AG	AG	AG	GG	GG	AG	AG	AG
AG	GG	GG	AG	AG	GG	GG	GG	AG	GG	GG
AG	GG	GG	GG	GG	AG	AG	GG	GG	GG	GG
AG	AG	AG	GG	GG	GG	GG	AG	GG	GG	AG
AG	AG	GG	AG	GG	GG	AG	GG	AG	AG	

Continued next page

Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp01257	1	27026185	AA	AA	AT	AT	AT	AT	AT	AA
AA	TT	TT	AT	AA	AA	AA	AT	TT	AT	AT
AA	AT	TT	AA	AT	TT	AT	TT	TT	AT	TT
AT	AT	AT	AT	TT	AT	AT	AT	AT	TT	AT
AT	AA	AT	TT	TT	AT	TT	AT	AT	AT	AT
AA	AT	AT	AT	AT	AA	AT	TT	AT	AA	AT
AA	TT	AT	AA	AT	AT	AA	AA	AT	AA	AT
AA	AT	TT	AA	AT	AT	AT	AT	AT	TT	AT
AT	AT	AT	AA	TT	AT	AT	TT	AT	AT	
GDsnp01678	1	27529888	GG	GG	AA	AG	AA	AA	AA	GG
AG	AA	AA	-	AG	AG	AG	AG	AA	-	AG
AA	AG	AA	AG	AG	AA	AA	AA	AA	AG	AA
AG	AG	-	AG	-	AG	AA	AG	AG	AA	AA
AG	AG	AG	AA	-	AA	-	AG	AG	-	AG
AG	AG	AG	AA	AA	GG	AG	AA	AG	AG	AG
AG	AG	AG	GG	AG	AG	GG	AG	AG	GG	AA
GG	AA	AA	GG	AG	AG	AG	AA	AG	AA	AA
AA	AA	AG	AG	AA	AG	AG	AA	AA	-	
GDsnp00575	1	27682472	GG	GG	AA	AG	AG	AG	AG	GG
AG	AA	AA	AG	GG	AG	AG	AG	AA	AG	AG
AA	AG	AA	AG	AG	AA	AG	AA	AA	AG	AA
AG	AG	AG	AG	AA	AG	AA	AG	AG	AA	AA
AG	GG	AG	AA	AA	AG	AA	AG	AG	AG	AG
AA	AG	AG	AG	AA	GG	AG	AA	AG	AG	AG
AG	AG	AG	GG	AG	AG	GG	GG	AG	GG	AA
GG	AG	AA	GG	AG	AG	AG	AG	AG	AA	AG
AG	AA	AG	AG	AA	AG	AG	AA	AG	AA	
GDsnp02371	1	27787322	AA	AA	AG	AG	AG	AG	AG	AA
AA	AG	GG	AA	AA	AA	AA	AG	GG	AG	AG
AG	AG	AG	AA	AG	GG	AG	GG	GG	AG	GG
AG	AG	AG	AG	GG	AG	AG	AG	AG	GG	GG
AG	AA	AG	GG	GG	AG	GG	AG	AG	AG	AG
AG	AG	AG	AG	AG	AA	AG	GG	AG	AA	AG
AA	AG	AG	AA	AG	AG	AA	AA	AG	AA	AG
AA	AG	GG	AA	AG	AG	AG	AG	AG	GG	AG
AG	AG	AG	AA	GG	AG	AG	GG	AG	AG	
GDsnp00348	2	1260526	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	-	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GDsnp01134	2	1273219	AA	AC	AA	AA	AA	AA	AC	AC
AC	AC	AC	AA	AC	AA	AC	AA	CC	AC	CC
AA	CC	AC	AA	AA	AA	AA	AC	AC	AC	AC
AC	AC	CC	AC	AC	AC	AC	CC	AC	AC	AA
AC	CC	AC	AC	CC	AC	CC	CC	CC	CC	AC
AA	AC	CC	AA	AC	AC	CC	AC	AC	CC	AA
AC	AC	AC	CC	AC	AC	AC	AA	AA	AC	AC
AC	AC	AC	AC	AA	AA	CC	AA	AA	AA	AC
AC	AC	AA	AC	AA	AC	CC	AC	AC	AA	

Continued next page

Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp00035	2	3267912		AG	GG	GG	AG	GG	GG	GG
AG	AG	GG	GG	GG	GG	GG	GG	AG	GG	GG
GG	GG	GG	GG	GG	GG	AG	GG	GG	GG	GG
AG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	AG	GG	GG	GG	GG	GG
GG	GG	GG	AG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	AG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	AG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	
GDsnp00203	2	4208368		GG	GG	GG	AG	GG	GG	GG
AG	GG	GG	GG	GG	GG	GG	GG	GG	AG	GG
GG	AG	GG	GG	GG	AG	AG	AG	AG	AG	AG
AG	AG	GG	GG	AG	GG	GG	GG	GG	AG	GG
GG	AG	GG	GG	AG	AG	AG	AG	GG	AG	GG
GG	GG	AG	AG	GG	GG	AG	GG	AG	AG	GG
GG	GG	GG	AG	GG	GG	AG	GG	GG	GG	GG
AG	AG	GG	GG	AG	GG	AG	GG	GG	GG	GG
AG	GG	GG	GG	AG	AG	GG	GG	GG	GG	
GDsnp00243	2	5554390		GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	CG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	CG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GDsnp00308	2	6305739		AA	AA	AA	AA	AA	AA	AA
-	AG	AG	AG	AA	AA	AA	AA	AA	AG	AA
AA	AG	AA	AA	AA	AG	AG	AG	AG	AG	AG
AA	AA	AA	AA	AG	AA	AA	AA	AA	AA	AA
AA	AG	AA	AA	AA	AG	AG	AG	AA	AG	AA
AA	AA	AA	AA	AA	AA	AG	AG	AG	AG	AA
AA	AA	AA	AA	AA	AA	AA	AG	AA	AA	AA
AG	AA	AA	AA	AG	AA	AG	AA	AA	AA	AA
AG	AA	AA	AA	AG	AG	AA	AG	AA	AA	
GDsnp01162	2	6510261		CC	CC	CC	CC	CC	CC	CC
AC	CC	AC	AC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	AC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	AC	CC
CC	CC	CC	CC	CC	CC	-	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	AC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
GDsnp00333	2	6617211		CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	AC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	AC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC

Continued next page

Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp00366	2	7138600		CC	CC	CC	CC	CC	CC	CC
CC	AC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	AC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	AC	CC
CC	CC	CC	CC	CC	CC	CC	AC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
GDsnp00289	2	7821054		TT	AT	AT	AT	AT	AT	TT
AT	TT	AT	TT	AT	AT	AT	AT	AA	TT	TT
TT	AT	AA	AT	TT	TT	AT	TT	TT	TT	AT
AA	AT	AA	AT	TT	AA	AT	AT	AA	AT	AT
AT	AT	TT	AT	TT	AT	-	AT	AA	AT	AT
AT	AT	AA	AT	AA	AT	TT	AT	TT	AT	AT
AT	AT	AT	AA	AT	AT	AT	AT	TT	AT	AT
TT	AA	AT	TT	TT	TT	TT	TT	AT	TT	AA
TT	AA	TT	AA	TT	TT	AA	AT	AT	TT	
GDsnp01223	2	10122263		AA	AG	GG	AG	AG	AA	AA
AG	AA	AG	AA	AG	AG	AG	AG	GG	AG	AA
AA	GG	GG	AG	AA	AG	AG	AG	AG	AG	GG
-	AG	AG	AG	AG	GG	AG	AG	GG	AG	AG
AG	GG	AA	AG	AG	AG	-	AG	GG	GG	AG
AG	AG	GG	AG	GG	AG	AG	GG	AG	GG	AG
AG	AG	AG	GG	AG	AG	AG	AG	AA	AG	AG
AG	AG	AG	AA	AG	AA	AG	AA	AG	AA	GG
AG	GG	AA	GG	AG	AG	GG	GG	AG	AA	
GDsnp00159	2	10837102		AA	AA	AG	AA	AA	AA	AA
AA	AA	AA	AA	AA	AG	AG	AA	AA	AA	AA
AA	AA	AG	AG	AA	AA	AA	AA	AA	AA	AA
AG	AG	AA	AA	AG	AG	AA	AA	AG	AA	AG
AA	AA	AA	AA	AA	AA	AA	AA	AG	AA	AA
AG	AA	AG	AA	AG	AG	AA	AA	AA	AA	AA
AA	AA	AA	AG	AG	AG	AA	AA	AA	AG	AA
AA	AA	AG	AA	AA	AA	AA	AA	AA	AA	AG
AA	AG	AA	AG	AA	AA	AG	AA	AG	AA	
GDsnp00985	2	11416692		GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GDsnp00214	2	12711977		AA	AA	AA	AA	AA	AC	AA
-	AC	AA	AA	AA	AA	AA	AA	AA	AC	AA
AA	AC	AA	AA	AA	AC	AC	AC	AC	AC	AC
AA	AA	AA	AA	AA	AA	AA	AA	AA	AC	AA
AA	AC	AA	AC	AC	AC	AC	AA	AA	AC	AC
AA	AA	AC	AA	AA	AA	AC	AC	AC	AC	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AC	AA	AA	AA	AC	AA	AC	AA	-	AA	AA
AC	AA	AA	AA	AC	AA	AA	AC	AA	AA	

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Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp00174	2	13284241		GG	GG	GG	GG	GG	GG	GG
GG	AG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	AG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GDsnp02144	2	14461169		CC	CC	CC	CC	CC	CC	CC
CC	CG	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CG	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
GDsnp00425	2	16326525		AC	CC	CC	CC	AC	AC	AA
AC	AA	AC	AA	AC	CC	AC	AA	CC	AC	AA
AA	CC	AC	AC	AA	AC	AC	AC	AC	AC	CC
CC	AC	CC	AC	AC	CC	AC	AC	CC	AC	AC
AA	CC	AC	AC	AC	CC	CC	CC	CC	CC	AC
AC	AC	CC	AC	CC	AC	AC	CC	AC	CC	AC
AC	AC	AC	CC	AC	CC	CC	AC	AA	AC	AC
CC	CC	AC	AA	AC	AA	AC	AC	AC	AC	CC
AC	CC	AC	AC	AC	AC	CC	AC	AC	AC	
GDsnp00934	2	17909427		AG	AG	AG	AG	AA	GG	GG
AA	AG	AG	AG	AG	GG	GG	AG	AG	GG	GG
GG	AA	AA	GG	GG	AG	AA	AG	AG	AG	AG
AG	GG	AA	AG	GG	AG	AG	AG	AG	AG	GG
GG	AA	AG	AG	AG	AA	AA	AG	AG	AA	AG
GG	AG	AA	AG	AG	GG	AG	AA	AG	AA	AG
AG	AG	AG	AG	AG	AG	AA	AA	GG	GG	AG
AA	AA	GG	GG	GG	GG	AG	AG	AG	AG	AG
AG	AG	AG	GG	AG	GG	AG	AG	GG	GG	
GDsnp00633	2	18038089		AG	AA	AA	AA	AG	AG	AG
AG	AG	AA	AG	AG	AA	AA	AG	AA	AG	AG
AG	AG	AG	AA	AG	AG	AG	AG	AG	AG	AA
AA	AA	AG	AG	AA	AA	AG	AG	AA	AA	AA
AG	AG	AG	AG	AG	AG	AG	AA	AA	AG	AG
AA	AG	AG	AA	AA	AA	AG	AG	AG	AG	AG
AG	AG	AG	AA	AA	AA	AG	AG	AG	AA	AG
AG	AG	AA	AG	AG	AG	AG	AG	AG	AG	AA
AG	AA	AA	AA	AG	AA	AA	AG	AA	AA	
GDsnp01090	2	21114028		AT	AT	AT	AT	AA	TT	TT
AA	AT	AA	AT	AT	TT	TT	AT	AT	TT	TT
TT	AA	AA	TT	TT	AT	AA	AT	AT	AA	AT
AT	AT	AA	AT	TT	AT	AT	AT	AT	AA	TT
TT	AA	AT	AT	AT	AA	AA	AT	AT	AA	AT
TT	AT	AA	AT	AT	TT	AT	AA	AT	AA	AT
AT	AT	AT	AT	AT	AT	AA	AA	TT	TT	AT
AA	AA	AT	TT	TT	TT	AT	AT	AT	AA	AT
AT	AT	AT	TT	AT	TT	TT	AT	TT	TT	

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Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp00833	2	22413796		AG	AG	AG	AG	AA	GG	GG
AG	AG	AG	GG	AA	GG	GG	AG	AG	GG	GG
GG	AA	AG	GG	GG	AG	AA	AG	AG	AA	AG
AG	AG	AA	AA	GG	AG	AG	AA	AG	AG	GG
AG	AA	AG	AG	AG	AA	AA	AG	AG	AA	AG
GG	AG	AA	AG	AG	GG	AG	AA	AG	AA	AG
AG	AG	AG	AG	AG	AG	AA	AG	GG	GG	AG
AA	AA	AG	GG	GG	GG	AG	AG	AG	AA	AG
AG	AG	AG	GG	AG	GG	GG	AG	GG	AG	
GDsnp01251	2	28641848		AA	AA	AC	AC	AA	AA	AA
AA	AA	AA	AA	AA	AC	AC	AA	AC	AA	AA
AA	AA	AC	AC	AC	AA	AA	AA	AA	AA	AC
AC	AC	AA	AA	AC	AC	AC	AA	AC	AC	AC
AA	AA	AA	AA	AA	AA	AC	AC	AC	AA	AA
AC	AA	AA	AC	AC	AC	AC	AA	AA	AA	AA
AA	AA	AA	AC	AC	AC	AA	AA	AA	AA	AA
AA	AA	AA	AC	AC	AC	AA	AA	AC	AA	AC
AA	AC	AC	AA	AA	AC	AC	AA	AC	AC	
GDsnp00629	2	30034626		AA	AA	AG	AG	AA	AA	AA
AA	AA	AA	AA	AA	AG	AA	AA	AG	AA	AA
AG	AA	AG	AG	AG	AA	AA	AA	AA	AA	AG
AG	AG	AA	AA	AG	AG	AG	AA	AG	AA	AG
AA	AA	AA	AA	AA	AA	AG	AG	AG	AA	AA
AG	AA	AA	AG	AG	AG	AG	AA	AA	AA	AA
AA	AA	AA	AG	AG	AG	AA	AA	AA	AG	AA
AA	AA	AA	AG	AA	AG	AA	AA	AG	AA	AG
AA	AG	AG	AA	AA	AG	AG	AA	AG	AG	
GDsnp00120	2	31832613		TT	TT	AT	AT	TT	TT	AT
TT	TT	TT	TT	TT	AT	TT	TT	AT	TT	TT
AT	TT	AT	AT	AT	TT	TT	TT	TT	TT	TT
AT	AT	TT	TT	AT	AT	AT	TT	AT	TT	AT
TT	TT	TT	TT	TT	TT	-	TT	AT	TT	TT
AT	TT	TT	AT	AT	AT	AT	TT	TT	TT	TT
TT	TT	TT	AT	AT	AT	TT	TT	TT	AT	TT
TT	TT	TT	AT	TT	AT	TT	TT	AT	TT	TT
TT	AT	AT	TT	TT	TT	AT	TT	AT	AT	
GDsnp00267	2	32038429		CC	CC	AC	AC	CC	CC	AC
CC	CC	CC	CC	CC	AC	CC	CC	CC	CC	CC
AC	CC	AC	AC	AC	CC	CC	CC	CC	CC	CC
AC	AC	CC	CC	AC	AC	AC	CC	AC	CC	CC
CC	CC	CC	CC	CC	CC	AC	CC	AC	CC	CC
AC	CC	CC	CC	AC	AC	AC	CC	CC	CC	CC
CC	CC	CC	AC	AC	AC	CC	CC	CC	AC	CC
CC	CC	CC	AC	CC	AC	CC	CC	AC	CC	CC
CC	AC	AC	CC	CC	CC	AC	CC	AC	AC	
GDsnp01322	2	32907169		GG	GG	GG	GG	GG	GG	GG
GG	AG	GG	GG	GG	GG	GG	GG	AG	GG	GG
GG	GG	GG	GG	GG	GG	AG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	AG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	AG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	

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Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp00471	2	35430983		AT	AT	AT	AT	AT	AA	AA
TT	AA	AT	AT	AT	AA	AA	AT	AA	AA	AA
AT	AT	TT	AT	AA	AT	AT	AT	AT	TT	TT
AT	TT	TT	TT	AT	AT	AT	AA	TT	AT	AA
AA	TT	TT	AT	AT	TT	AT	AT	AT	TT	AT
AA	AT	TT	AT	AT	AA	AT	TT	AT	AT	AT
AT	TT	AA	TT	TT	TT	TT	AT	AT	AT	AT
TT	TT	AT	AA	AA	AT	AT	AT	AT	AT	TT
AT	AT	AT	AA	AT	AT	AT	AT	AA	AT	
GDsnp02535	2	36427906		AG	AG	AG	GG	AG	AA	AA
AG	AA	AG	AG	AG	AA	AA	AG	AA	AA	AA
AG	AG	GG	AG	AA	AG	AG	AG	AG	GG	GG
AG	GG	GG	GG	AG	AG	AG	AA	GG	AG	AA
AA	GG	AG	AG	AG	GG	AG	AG	AG	GG	AG
AA	AG	GG	AG	AG	AA	AG	GG	AG	AG	AG
AG	GG	AA	GG	GG	GG	GG	AG	AG	AG	AG
GG	GG	AG	AA	AA	AG	AG	AG	AG	AG	GG
AG	AG	AG	AA	AG	AG	AG	AG	AA	AG	
GDsnp01181	2	unanchored		AA	AA	AA	AA	AA	-	-
AA	GG	AA	AA	AA	AA	AA	AA	AA	-	-
-	AA	AA	AA	AA	AA	AG	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AG	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	-	AA	AA	AA	AA	AA	-	AA	AA
AA	AA	AA	-	-	AA	AA	AA	AA	AA	AA
AA	AA	AA	-	AA	AA	AA	AA	AA	AA	
GDsnp00322	3	866359		CG	GG	CG	CC	GG	CC	CG
-	CG	CC	CG	CG	GG	CG	GG	CG	CG	CC
GG	CC	CC	CG	GG	CG	CG	CG	CG	CC	CC
CC	CC	CG	CG	CG	CC	CC	CG	CC	CG	CC
GG	CG	CG	CC	CG	CC	CG	CG	CG	CG	CG
CC	CG	CC	GG	CG	GG	CC	CC	CG	CG	GG
GG	CC	GG	CC	CC	CG	CG	GG	GG	CG	CG
CG	GG	CC	CG	CC	GG	CG	CG	CG	GG	CC
CG	CC	GG	CG	CG	CG	CG	CC	CG	CC	
GDsnp00480	3	1667573		GG	GG	CG	CG	CG	GG	GG
CG	CG	CG	GG	CG	GG	GG	GG	GG	GG	CG
GG	CG	CG	CG	GG	CG	CG	CG	CG	GG	GG
CG	GG	GG	GG	GG	GG	CG	GG	GG	CG	CG
GG	CG	GG	GG	GG	GG	GG	GG	GG	CG	GG
CG	GG	CG	GG	CG	GG	CG	CG	GG	CG	GG
GG	CG	GG	GG	GG	CG	CG	CG	GG	GG	CG
CG	GG	CG	CG	CG	GG	CG	GG	GG	GG	GG
CG	CG	GG	GG	CG	GG	CG	GG	GG	CG	
GDsnp00078	3	1813618		TT	TT	TT	AT	TT	TT	TT
TT	TT	TT	TT	TT	TT	TT	TT	TT	TT	TT
TT	AT	AT	TT	TT	AT	TT	AT	AT	TT	TT
AT	TT	TT	TT	TT	TT	TT	TT	TT	AT	TT
TT	AT	TT	TT	TT	TT	TT	AT	TT	AT	TT
TT	TT	AT	TT	TT	TT	AT	TT	TT	TT	TT
TT	TT	TT	TT	TT	AT	AT	AT	TT	TT	TT
TT	TT	AT	TT	AT	TT	AT	TT	TT	TT	TT
AT	TT	TT	TT	TT	TT	TT	TT	TT	TT	

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Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp00588	3	2130666		AA	AA	AT	AT	AT	AA	AA
AT	AT	AT	AA	AT	AA	AA	AA	AA	AA	AT
AA	AT	AT	AT	AA	AT	AT	AT	AT	AA	AA
AT	AA	AA	AA	AA	AA	AT	AA	AA	AT	AT
AA	AT	AA	AA	AA	AA	AA	AT	AA	AT	AA
AT	AA	AT	AA	AT	AA	AT	AT	AA	AT	AA
AA	AT	AA	AA	AA	AT	AT	AA	AA	AA	AT
AT	AA	AT	AT	AA	AA	AT	AA	AA	AA	AA
AT	AT	AA	AA	AT	AA	AT	AA	AA	AT	
GDsnp00477	3	4409802		AA	AA	AT	AT	AT	AA	AA
AA	AT	AT	AA	AT	AA	AA	AA	AA	AA	AT
AA	AT	AT	AT	AT	AT	AT	AT	AT	AA	AA
AT	AA	AA	AA	AA	AA	AA	AA	AA	AT	AA
AA	AT	AA	AT	AA	AA	AA	AT	AA	AT	AA
AT	AA	AT	AA	AT	AA	AT	AA	AA	AT	AT
AT	AT	AA	AA	AA	AT	AT	AA	AA	AA	AT
AT	AA	AT	AT	AA	AA	AT	AA	AA	AA	AA
AT	AT	AA	AA	AT	AA	AT	AA	AA	AT	
GDsnp02304	3	5461757		CG	GG	CG	CC	CG	CC	GG
CG	CG	CC	CG	CC	GG	CG	GG	CG	CG	CC
GG	CC	CC	CG	CG	CG	CG	CG	CG	CC	CC
CC	CC	CG	CG	CG	CC	CG	CG	CC	CG	CG
CG	CG	CG	CC	CG	CC	-	CC	CG	CG	CG
CG	GG	CC	GG	CG	CG	CC	CG	CG	CG	CG
CC	CC	CG	CC	CC	CG	CG	GG	GG	CG	CC
CG	GG	CC	CG	CG	GG	CC	CG	CG	GG	CC
CG	CC	GG	CG	CG	CG	CG	CC	GG	CC	
GDsnp01493	3	6394694		GG	GG	GG	AG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	AG	AG	GG	GG	AG	GG	AG	AG	GG	GG
AG	GG	GG	GG	GG	GG	GG	GG	GG	AG	GG
GG	AG	GG	AG	GG	GG	-	AG	GG	AG	GG
GG	GG	AG	GG	GG	GG	AG	GG	GG	GG	GG
GG	GG	GG	GG	GG	AG	AG	GG	GG	GG	GG
GG	GG	AG	GG	GG	GG	GG	GG	GG	GG	GG
AG	GG	GG	-	GG	GG	GG	GG	GG	GG	
GDsnp01749	3	9818804		AA	AC	CC	CC	AC	AA	CC
AA	AC	AC	AA	CC	CC	AC	AC	AC	AC	AC
CC	AC	AC	AC	AC	CC	AC	CC	CC	AC	AA
AC	AA	AC	AC	CC	AA	AC	AC	AA	AC	AC
AC	CC	AC	AC	CC	AA	-	AC	AC	CC	AC
AC	CC	AC	CC	AA	AC	AC	CC	AC	AC	AC
AA	AC	AA	AA	AA	CC	CC	CC	CC	AC	AA
CC	CC	AC	AC	AA	CC	AA	AC	AC	CC	CC
CC	AC	CC	AC	CC	AC	AC	CC	CC	AA	
GDsnp00194	3	9876267		GG	AG	AA	AA	AG	GG	AA
GG	AG	AG	GG	AA	AA	AG	AG	AG	AG	AG
AA	AG	AG	AG	AG	AA	AG	AA	AA	AG	GG
AG	GG	AG	AG	AA	GG	AG	AG	GG	AG	AG
AG	AA	AG	AG	-	GG	AG	AG	AG	-	AG
AG	AA	AG	AA	GG	AG	AG	AG	AG	AG	AG
GG	AG	GG	GG	GG	AA	AA	AG	AA	AG	GG
AG	AG	AG	AG	GG	AA	GG	AG	AG	AA	AA
AA	AG	AA	AG	AG	AG	AG	AG	AA	GG	

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Supplemental Table 2. Continued.

SNP name		Linkage group		Physical location (bp)		Individuals				
GDsnp01821	3	14142041		AT	AT	TT	TT	AT	AA	TT
AA	TT	AA	AA	TT	TT	AT	AT	TT	AT	AT
TT	TT	AT	AT	AT	TT	TT	TT	TT	AT	AA
TT	AT	TT	AT	TT	AA	AT	AT	AA	TT	AT
AT	TT	AT	AT	TT	AA	AA	AA	AT	TT	AT
AT	TT	AT	AT	AA	AT	AT	AT	AT	AT	AT
AA	AT	AT	AT	AA	TT	AT	AT	TT	AT	AA
AT	AT	AA	AT	AA	TT	AA	AT	AT	TT	TT
TT	AT	TT	AT	AT	AT	TT	AT	TT	AA	
GDsnp00921	3	15053657		AC	AA	AA	AC	AA	AA	AC
AA	AC	AA	AA	AA	AA	AA	AA	AC	AC	AC
AA	AC	AC	AA	AA	AC	AC	AC	AC	AA	AA
AC	AA	AC	AA	AC	AA	AA	AA	AA	AA	AC
AA	AC	AA	AC	AC	AA	AA	AA	AA	AC	AA
AA	AA	AC	AA	AA	AA	AC	AA	AA	AA	AA
AA	AA	AA	AC	AA	AC	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AC
AA	AA	AA	AA	AA	AA	AC	AA	AA	AA	
GDsnp00955	3	21125269		AC	CC	CC	AC	CC	CC	AC
CC	CC	CC	CC	CC	CC	CC	CC	AC	AC	AC
CC	AC	AC	CC	CC	AC	CC	AC	AC	AC	CC
AC	CC	AC	CC	AC	CC	CC	CC	CC	CC	AC
CC	AC	CC	AC	AC	AC	CC	CC	CC	AC	CC
CC	CC	AC	CC	CC	CC	AC	CC	CC	CC	CC
CC	CC	CC	AC	CC	AC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	AC
CC	CC	CC	CC	CC	CC	AC	CC	CC	CC	
GDsnp01487	3	22945539		GG	-	-	GG	-	-	GG
-	GG	GG	-	-	-	-	-	-	GG	GG
-	GG	GG	-	-	GG	GG	GG	GG	GG	GG
GG	-	GG	-	GG	-	-	-	-	-	-
-	GG	-	GG	GG	GG	GG	-	-	GG	-
-	-	GG	-	-	-	-	-	-	-	-
-	-	-	GG	-	GG	-	-	-	GG	-
-	-	-	-	-	-	-	-	-	-	GG
-	-	-	-	-	-	GG	-	-	-	
GDsnp00278	3	23260704		AG	GG	GG	AG	GG	GG	AG
-	GG	GG	GG	GG	GG	GG	GG	GG	AG	AG
GG	AG	AG	GG	GG	AG	GG	AG	AG	AG	AG
AG	GG	AG	GG	AG	GG	GG	GG	GG	GG	GG
GG	AG	GG	AG	AG	AG	AG	GG	GG	AG	GG
GG	GG	AG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	AG	GG	AG	GG	GG	GG	AG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	AG
GG	GG	GG	GG	GG	GG	AG	GG	GG	GG	
GDsnp00317	3	24004818		AT	TT	TT	AT	TT	TT	AT
AT	TT	TT	TT	TT	TT	TT	TT	TT	AT	AT
TT	AT	AT	TT	TT	AT	TT	AT	AT	AT	AT
AT	TT	AT	TT	AT	TT	TT	TT	TT	AT	TT
TT	AT	TT	AT	AT	AT	-	TT	TT	AT	TT
TT	TT	AT	TT	TT	TT	TT	TT	TT	TT	TT
TT	TT	TT	AT	TT	AT	TT	TT	TT	AT	TT
TT	TT	TT	TT	TT	TT	TT	TT	TT	TT	AT
TT	TT	TT	TT	TT	TT	AT	TT	TT	TT	

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Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp01969	3	2505516		AG	AG	GG	GG	AG	AG	GG
AA	AG	AG	AG	GG	GG	AG	AG	AG	AG	AG
GG	GG	AG	AG	AA	GG	GG	GG	GG	GG	AG
GG	AG	GG	AG	GG	AA	AG	AG	AA	GG	AA
AG	GG	AG	AG	GG	AG	AG	AG	AG	GG	AG
AG	AG	AG	AG	AG	AG	AA	AG	AG	AG	AG
AA	AG	AA	AG	AA	AG	AG	AG	GG	GG	AG
AA	GG	AA	AG	AA	GG	AA	GG	AG	GG	GG
AG	AG	GG	AG	AG	AG	GG	GG	GG	AG	
GDsnp01329	3	27949058		AG	AA	AA	AG	AA	AA	AG
-	AA	AG	AG	AA	AA	AA	AA	AG	AA	AA
AA	AG	AG	AA	AA	AG	AA	AG	AG	AG	AG
AG	AA	AG	AA	AG	AA	AA	AA	AA	AA	AG
AA	AG	AA	AG	AG	AG	-	AA	AA	AG	AA
AA	AA	AG	AG	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AG	AA	AG	AA	AG	AA	AG	AA
AA	AA	AA	AA	AA	AA	-	AA	AA	AA	AG
AA	AA	AA	AA	AA	-	AA	AA	AA	AA	
GDsnp01667	3	28332036		AG	AA	AA	AG	AA	AA	AG
AG	AA	AG	-	AA	AA	AA	AA	AG	AA	AA
AA	AG	AG	AA	AA	AG	AG	AG	AG	AG	AG
AA	AA	AG	AA	AG	AA	AA	AA	AA	AA	AG
AA	AG	AA	AG	AG	AG	-	AA	AA	AG	AA
AA	AA	AG	AG	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AG	AA	AG	AA	-	AA	AG	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AG
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	
GDsnp02030	3	29276414		AG	AA	AA	AG	AA	AG	AG
AA	AG	AG	AA	AA	AA	AA	AA	AG	AA	AA
AA	AG	AG	AA	AA	AG	AA	AG	AG	AG	AG
AA	AA	AG	AA	AG	AA	AA	AA	AA	AA	AG
AA	AG	AA	AG	AG	AG	AG	AA	AA	AG	AA
AA	AA	AG	AG	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AG	AA	AG	AA	AA	AA	AG	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AG
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	
GDsnp01396	3	29562317		AG	GG	GG	AG	GG	AG	AG
GG	AG	AG	GG	GG	GG	GG	GG	AG	GG	GG
GG	AG	AG	GG	GG	AG	GG	AG	AG	AG	AG
GG	GG	AG	GG	AG	GG	GG	GG	GG	GG	AG
GG	AG	GG	AG	AG	AG	AG	GG	GG	AG	GG
GG	GG	AG	AG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	AG	GG	AG	GG	GG	GG	AG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	AG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	
GDsnp00664	3	31592370		GG	AG	GG	GG	GG	AG	GG
AG	GG	AG	AG	GG	GG	GG	AG	GG	AG	AG
AG	GG	AG	AG	AA	AG	GG	AG	AG	GG	AG
GG	AG	GG	AG	GG	AA	AA	AA	AA	AG	AG
AG	GG	AA	GG	GG	AG	AG	AG	AG	GG	GG
AG	AG	AG	AG	AG	AG	AA	AG	AA	AG	AG
AG	AG	AA	AG	AA	AG	AG	GG	GG	GG	AG
AA	GG	AA	AG	AG	GG	AA	GG	AG	GG	GG
AG	AG	AG	-	AG	AG	GG	AG	GG	AG	

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Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp01073	3	32321745		AT	AT	AT	AT	TT	AT	AT
TT	TT	AT	TT	TT	AT	AT	AT	AT	TT	TT
TT	TT	AT	TT	TT	TT	TT	AT	AT	AT	TT
TT	AT	AT	TT	AT	TT	TT	TT	TT	TT	AT
TT	TT	TT	AT	AT	TT	AT	TT	TT	TT	AT
AT	TT	AT	AT	AT	AT	TT	TT	TT	TT	TT
AT	TT	TT	AT	AT	AT	TT	AT	AT	AT	AT
TT	AT	TT	TT	AT	AT	AT	TT	AT	TT	TT
TT	AT	TT	AT	TT	TT	TT	TT	AT	AT	
GDsnp00319	3	32713096		AG	AG	AG	AG	GG	AG	AG
-	GG	AG	AG	GG	AG	AG	AG	AG	GG	GG
GG	GG	AG	GG	GG	GG	AG	AG	AG	AG	GG
GG	AG	AG	GG	AG	GG	GG	GG	GG	GG	AG
GG	GG	GG	AG	AG	GG	AG	GG	GG	GG	AG
AG	GG	AG	AG	AG	AG	GG	GG	GG	GG	GG
AG	GG	GG	AG	AG	AG	GG	AG	AG	AG	AG
GG	AG	GG	GG	AG	AG	AG	GG	AG	GG	GG
GG	AG	GG	AG	GG	GG	AG	GG	AG	AG	
GDsnp01604	3	33113442		AC	AC	AC	AC	CC	AC	AC
CC	CC	AC	CC	CC	AC	AC	AC	AC	CC	CC
CC	CC	AC	CC	CC	CC	CC	AC	AC	AC	CC
CC	AC	AC	CC	AC	CC	CC	CC	CC	CC	AC
CC	CC	CC	AC	AC	CC	AC	CC	CC	CC	AC
AC	CC	AC	AC	AC	AC	CC	CC	CC	CC	CC
AC	CC	CC	AC	AC	AC	CC	AC	AC	AC	AC
CC	AC	CC	CC	AC	AC	AC	CC	AC	CC	CC
CC	AC	CC	AC	CC	CC	AC	CC	AC	AC	
GDsnp00168	3	33165007		CG	CG	CG	CG	CC	CG	CG
CG	CC	CG	CC	CC	CG	CG	CG	CG	CC	CC
CC	CC	CG	CC	CC	CC	CC	CG	CG	CG	CC
CC	CG	CG	CC	CG	CC	CC	CC	CC	CC	CG
CC	CC	CC	CG	CG	CC	-	CC	CC	CC	CG
CG	CC	CG	CG	CG	CG	CC	CC	CC	CC	CC
CG	CC	CC	CG	CG	CG	CC	CG	CG	CG	CG
CC	CG	CC	CC	CG	CG	CG	CC	CG	CC	CC
CC	CG	CC	CG	CC	CC	CG	CC	CG	CG	
GDsnp00237	4	796479		GG	GG	GG	GG	GG	GG	GG
GG	CG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	CG	GG	GG	GG	
GDsnp00904	4	3509721		AA	AA	AG	AA	AA	AA	AG
AG	AA	AG	AG	AA	AG	AA	AG	AA	AA	AA
AG	AA	AA	AG	AG	AG	AG	AA	AA	AA	AA
AG	AA	AA	AA	AA	AA	AA	AA	AA	AG	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AG	AA	AA	AA	AA	AA	AA	AA	AA	AG
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AG
AA	AA	AA	AG	AA	AA	AA	AA	AA	AA	AG
AG	AA	AA	AA	AA	AG	AA	AA	AG	AG	

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Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp01628	4	3963790		AA	AG	AG	AG	GG	AG	GG
AG	AG	AG	AA	GG	GG	AA	GG	AG	AG	GG
GG	AG	GG	GG	GG	GG	AA	AA	AA	AA	GG
AG	AA	AG	GG	AG	AA	AG	GG	AG	AG	AA
GG	GG	GG	AA	AG	AG	AA	AG	AG	GG	AA
AA	GG	AG	AG	AA	AG	AG	AG	AG	AA	AG
AG	GG	AA	AG	AG	AA	GG	AG	AA	AG	GG
GG	AA	AG	GG	AG	AA	AG	GG	AA	AG	AG
AG	AA	AA	AA	AG	GG	AG	GG	GG	AG	
GDsnp01656	4	4516066		AC	AC	CC	AC	CC	AC	CC
CC	AC	CC	CC	CC	CC	AC	CC	AC	AC	CC
CC	CC	CC	CC	CC	CC	CC	AC	AC	AC	CC
CC	AC	CC	CC	AC	AC	AC	CC	AC	AC	AC
CC	CC	CC	AC	CC	CC	AC	CC	CC	CC	AC
AC	CC	AC	AC	AC	AC	AC	AC	CC	AC	CC
AC	CC	AC	AC	CC	AC	CC	CC	AC	AC	CC
CC	CC	AC	CC	AC	AC	CC	CC	AC	CC	CC
CC	AC	AC	AC	CC	CC	CC	CC	CC	CC	
GDsnp00363	4	6434983		AG	AG	AG	AG	GG	AG	AG
AG	AG	AG	AG	GG	AG	AG	AG	AG	AG	GG
AG	GG	AG	AG	AG	AG	AG	AG	AG	AG	GG
GG	AG	GG	GG	AG	AG	AG	GG	AG	AG	AG
AG	GG	GG	GG	GG	GG	AG	AG	GG	GG	AG
AG	AG	AG	AG	AG	AG	AG	AG	GG	AG	AG
AG	AG	AG	AG	GG	GG	GG	AG	AG	AG	AG
GG	GG	AG	AG	AG	AG	GG	AG	AG	AG	AG
AG	AG	AG	AG	GG	AG	AG	GG	AG	AG	
GDsnp02646	4	8280892		AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	-	AA
AA	AA	AA	AA	AA	AA	-	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	
GDsnp00727	4	10031840		CG	CG	CG	CG	CC	CG	CG
CC	CG	CG	CG	CC	CG	CG	CG	CG	CG	CC
CG	CC	CG	CG	CG	CC	CC	CG	CG	CG	CC
CC	CG	CC	CC	CG	CG	CG	CC	CG	CC	CG
CG	CC	CC	CC	CC	CC	CG	CG	CC	CC	CG
CG	CG	CG	CG	CG	CG	CG	CG	CC	CG	CG
CG	CG	CG	CG	CC	CC	CC	CG	CG	CG	CG
CC	CC	CG	CG	CG	CG	CG	CG	CG	CG	CG
CG	CG	CG	CG	CC	CG	CG	CC	CG	CG	
GDsnp00928	4	12770142		GG	AG	AG	AG	AA	AG	AG
AG	AG	AA	AA	AA	AG	GG	AG	AG	AG	AA
AG	AG	AG	AG	AG	AA	GG	AA	AA	AG	AA
GG	AG	AG	AA	AA	AG	AG	AA	-	AG	GG
AA	AG	AA	AG	AG	AG	AG	-	AG	AA	AG
GG	AG	AA	AG	GG	AG	AA	AG	AG	GG	GG
GG	AG	GG	AA	AG	GG	AG	AG	AG	AG	AG
AA	GG	AA	AG	GG	GG	AA	AA	GG	AG	AG
AG	AG	AG	GG	AG	AG	AG	AA	AG	GG	

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Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp02296	4	13039943		AA	CC	CC	AC	CC	CC	AC
CC	AC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	AA	CC	CC	CC	CC
-	CC	CC	CC	CC	CC	CC	CC	CC	AC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
-	CC	CC	CC	-	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	-	CC	CC	CC	CC	CC
CC	-	CC	CC	CC	-	CC	CC	CC	CC	CC
CC	CC	CC	-	CC	CC	CC	CC	CC	CC	
GDsnp00063	4	14625711		AG	AG	AG	GG	GG	AG	GG
AG	GG	AG	AG	GG	AA	AA	AG	AG	AG	GG
AG	AG	AG	AG	AG	GG	AG	GG	GG	AG	GG
AA	AG	AG	GG	GG	AG	AA	GG	GG	GG	AA
AG	AG	GG	AG	AG	AG	AG	AG	AG	GG	AG
AA	AG	GG	AA	AA	AG	AG	AA	AG	AA	AA
AA	AA	AA	GG	AG	AA	AG	AA	AG	AG	AG
GG	AA	GG	AG	AA	AA	GG	AG	AA	AA	AA
AG	AG	AG	AA	AG	AA	AA	AG	AG	AA	
GDsnp00321	4	15355228		AG	AG	AG	AA	AA	AG	AA
AG	AA	AG	AG	AA	GG	GG	AG	AG	AG	AA
AG	AG	AG	AG	AG	AA	AG	AA	AA	AG	AA
GG	AG	AG	AA	AA	AG	GG	AA	AA	AG	GG
AG	AG	AA	AG	GG	AG	AG	AG	AG	AA	AG
GG	AG	AA	GG	GG	AG	AG	GG	AG	GG	GG
GG	GG	GG	AA	AG	GG	AG	GG	AG	AG	AG
AA	GG	AA	AG	GG	GG	AA	AG	GG	GG	AG
AG	AG	AG	GG	AG	GG	GG	AG	AG	GG	
GDsnp00148	4	16599404		AG	AG	AG	AA	AA	AG	-
AG	AA	GG	AG	AA	GG	GG	AG	AG	AG	AA
AG	AG	AG	AG	GG	AA	AA	AA	AA	AG	AA
GG	AG	AG	AA	AA	AG	GG	AA	AA	AG	GG
AA	AG	AA	AG	GG	AG	AG	AG	AG	-	AG
GG	AG	AA	GG	GG	AG	AG	GG	AG	GG	GG
GG	AG	GG	AA	AG	GG	AG	GG	AG	AG	AG
AA	GG	AA	AG	GG	GG	-	AG	GG	GG	AG
AG	AG	AG	-	AG	GG	GG	AG	AG	GG	
GDsnp00324	4	16640485		AG	AG	AG	AA	AA	AG	AA
AA	AA	GG	AG	AA	GG	GG	AG	AA	AG	AA
AG	AG	AA	AG	GG	AA	AA	AA	AA	AG	AA
GG	AG	AG	AA	AA	AG	GG	AA	AA	AA	AG
AA	AG	AA	AG	GG	AG	-	AA	AG	AA	AG
GG	AG	AA	AG	GG	AG	AG	GG	AG	GG	GG
GG	AG	GG	AA	AG	GG	AG	GG	AG	AG	AG
AA	GG	AA	AG	GG	GG	AA	AG	GG	GG	AG
AG	AG	AG	GG	AG	GG	AG	AG	AG	GG	
GDsnp00881	4	17330929		CC	CC	CC	CC	CC	CC	CC
AC	CC	AC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	AC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	AC	AC
CC	CC	CC	CC	CC	CC	CC	AC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	AC	CC	AC	AC
AC	CC	CC	CC	CC	AC	CC	CC	CC	CC	

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Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp00277	4	17724230		AA	AG	AG	AG	GG	AG	AG
GG	AG	AG	AG	GG	AA	AA	AG	AG	AG	GG
AG	AG	AG	AG	AA	GG	AG	GG	GG	AG	GG
AA	AG	AG	GG	GG	AG	AA	GG	GG	GG	AG
GG	AG	GG	AG	-	GG	AG	AG	AG	GG	AG
AA	AG	GG	AA	AA	AG	AG	AA	AG	AG	AA
AA	AG	AA	GG	AG	AA	AG	AA	AG	AG	AG
GG	AA	GG	AG	AA	AA	GG	GG	AA	AG	GG
GG	AG	AG	AA	GG	AG	AA	AG	AG	AA	
GDsnp01195	4	19373189		AG	AA	AA	AG	AA	AA	AG
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
GDsnp00619	4	19504268		AA	AA	AA	AA	-	AA	AA
GG	AA	AG	AA	-	AA	AA	AA	AA	AA	-
AA	AA	AA	AA	AA	-	AA	AA	AA	AA	-
AA	AA	AA	-	-	AA	AA	-	-	-	GG
-	AA	GG	AA	AA	-	AA	AA	-	-	AA
AA	AA	-	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	-	AA	AA	AA	AA	AA	AA	AA
-	AA	-	AA	AA	AA	-	GG	AA	AG	AA
AA	AA	AA	AA	-	AA	AG	AA	AA	AA	
GDsnp01336	4	20287239		AG	AG	AG	GG	GG	AG	AG
GG	AG	AG	AG	GG	AA	AA	AG	AG	AG	GG
AG	AG	AA	AG	AA	AG	AG	AG	AG	AG	GG
AA	AG	AG	GG	GG	AG	AA	GG	GG	GG	AG
GG	AG	GG	AG	AA	GG	AG	AA	AG	GG	AG
AA	AG	GG	AA	AA	AG	AG	AA	AG	AG	AA
AA	AG	AA	GG	AG	AA	AG	AA	AA	AA	AG
GG	AA	GG	AG	AA	AA	GG	GG	AA	AG	AG
GG	AG	AG	AA	GG	AA	AA	AG	AA	AA	
GDsnp00226	4	21346225		AC	CC	CC	AC	AC	CC	CC
AC	CC	AC	CC	AC	CC	CC	CC	CC	CC	AC
CC	AC	CC	CC	CC	CC	CC	CC	CC	AC	CC
CC	AC	CC	AC	AC	AC	CC	AC	AC	CC	CC
AC	AC	AC	CC	CC	AC	AA	CC	AC	AC	CC
CC	CC	AC	CC	CC	CC	CC	CC	CC	CC	CC
CC	AC	CC	AC	CC	CC	AC	CC	CC	CC	CC
AC	CC	AC	CC	CC	CC	AC	AC	CC	AC	CC
AC	CC	CC	-	AC	CC	CC	AC	CC	CC	
GDsnp00232	4	21774407		AG	AA	AA	AG	AG	AA	AA
AA	AA	AG	AA	AG	AA	AA	AA	AA	AA	AG
AA	AG	AA	AA	AA	AA	AA	AG	AG	AG	AA
AA	AG	AA	AG	AG	AG	AA	AG	AG	AA	AA
AG	AG	AG	AG	AG	AG	AG	AA	AG	AG	AG
AA	AA	AG	AA	AA	AA	AG	AA	AG	AA	AA
AA	AG	AA	AG	AG	AG	AG	AA	AA	AG	AA
AG	AA	AG	AA	AA	AA	AG	AG	AA	AG	AA
AG	AA	AA	AA	AG	AA	AA	AG	AA	AA	

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Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp00136	4	22675179		AC	CC	CC	AC	AC	CC	CC
AC	CC	AC	CC	AC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	AC	AC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	AC	CC	CC
CC	CC	AC	AC	AC	CC	CC	CC	CC	CC	AC
CC	CC	CC	CC	CC	CC	AC	CC	AC	CC	CC
CC	AC	CC	CC	AC	AC	AC	CC	CC	AC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	AC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	
GDsnp00177	4	22900279		AC	AA	AA	AC	AC	AA	AA
AC	AA	AC	AA	AC	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AC	AC	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AC	AA	AA
AA	AA	AC	AC	AC	AA	AA	AC	AA	AA	AC
AA	AA	AA	AA	AA	AA	AC	AA	AC	AA	AA
AA	AC	AA	AA	AC	AC	AC	AA	AA	AC	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AC	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	
GDsnp00737	5	600612		AC	AA	AC	AC	CC	AA	AA
-	AA	CC	AC	CC	AA	AC	AC	CC	CC	AA
AA	AC	AA	AA	AA	CC	CC	AA	AA	AC	AA
AC	AA	AA	CC	AA	AC	AC	CC	AC	CC	CC
AC	AA	AC	CC	AA	AA	AC	AC	AC	AC	CC
AC	AC	AC	CC	AC	AC	AC	AA	AA	CC	AC
AA	AC	AA	AC	AC	AA	AA	AC	AC	AA	AA
AC	AC	AC	AC	AC	AA	CC	CC	CC	AC	AC
AA	AC	CC	AA	CC	AC	CC	CC	AA	AC	
GDsnp01694	5	975873		AC	AA	AC	AC	-	AC	AA
CC	AA	CC	AC	CC	AA	AC	AC	CC	CC	AC
AC	AC	AA	AC	AC	CC	CC	AA	AA	AC	AC
AC	AA	AC	CC	AA	AC	AC	CC	AC	CC	CC
AC	AA	AC	CC	AA	AA	AC	AC	AC	AC	AC
AC	AC	AC	CC	CC	AC	AC	AC	AA	CC	AC
AA	AC	AC	AC	AC	AA	AA	AC	AC	AA	AC
AC	AC	AC	AC	AC	AA	CC	CC	CC	AC	AC
AA	AC	CC	AA	CC	AC	CC	AC	AA	AC	
GDsnp00244	5	3433402		AC	AA	AC	AC	CC	AA	AA
AC	AA	AC	AC	AC	AA	AC	AC	AC	CC	AA
-	AC	AC	-	AA	AC	AC	AA	AA	AC	AA
AC	AA	AA	AC	AA	AC	AC	AC	AC	AC	CC
AC	-	AC	CC	AA	AA	AA	AC	AC	AC	AC
AC	AC	AC	AC	AC	AC	AC	AA	AA	CC	AC
AA	AC	AA	AC	AA	AA	AA	AC	AC	-	-
AC	AC	AC	AC	AC	AA	CC	AC	AC	AC	AC
AA	AC	AC	AA	CC	AA	CC	AA	AA	AC	
GDsnp00284	5	4305491		GG	AG	GG	GG	GG	AG	GG
AG	GG	AG	GG	AG	GG	GG	GG	AG	GG	AG
AG	AG	GG	AG	GG	AG	AG	GG	GG	GG	AG
GG	GG	AG	AG	GG	GG	GG	AG	GG	AG	GG
GG	GG	GG	GG	GG	GG	GG	AG	GG	GG	GG
GG	GG	GG	AG	AG	GG	GG	AG	GG	GG	AG
GG	GG	AG	GG	GG	GG	GG	GG	GG	GG	AG
GG	GG	GG	GG	GG	GG	GG	GG	AG	GG	GG
GG	GG	AG	GG	GG	GG	GG	AG	GG	GG	

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Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp00264	5	5559452		CC	AC	CC	CC	CC	AC	CC
CC	CC	AC	CC	AC	CC	CC	CC	CC	CC	AC
AC	AC	CC	AC	CC	AC	AC	CC	CC	CC	AC
CC	CC	AC	CC	CC	CC	CC	AC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	AC	CC	CC	CC
CC	CC	CC	AC	AC	CC	CC	AC	CC	CC	AC
AC	CC	AC	CC	CC	CC	CC	CC	CC	CC	AC
CC	CC	CC	CC	CC	AC	CC	CC	AC	CC	CC
CC	CC	AC	CC	CC	CC	CC	AC	CC	CC	
GDsnp00238	5	6193587		GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	AG	GG
GG	GG	GG	GG	GG	GG	-	AG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GDsnp01333	5	6282548		GG	AG	GG	GG	GG	AG	GG
GG	GG	AG	GG	AG	AG	GG	GG	GG	GG	AG
AG	AG	GG	AG	GG	AG	AG	GG	GG	GG	AG
GG	GG	AG	GG	GG	GG	GG	AG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	AG	GG	GG	GG
GG	GG	GG	AG	AG	GG	GG	AG	GG	GG	AG
AG	GG	AG	GG	GG	GG	GG	GG	GG	GG	AG
GG	GG	GG	GG	GG	AG	GG	GG	AG	GG	GG
GG	GG	AG	GG	GG	GG	GG	AG	GG	GG	
GDsnp00189	5	7624382		AG	AG	AG	AG	AA	AG	GG
AA	AG	AA	GG	AG	AG	AG	AG	AG	AA	AG
AG	AA	AG	AG	GG	AA	AA	GG	GG	AG	AG
AG	AG	AG	AA	GG	AG	AG	AA	AG	AA	AG
AG	GG	AG	AA	GG	GG	GG	AG	AG	AG	AG
AG	AG	AG	AA	AA	AG	AG	AG	GG	AA	AA
AG	AG	AG	AG	GG	GG	GG	GG	AG	GG	AG
AG	AG	AA	AG	AG	AG	AA	AA	AA	AG	AG
GG	AG	AA	GG	AG	AG	AG	AG	GG	AG	
GDsnp01942	5	7693959		AG	AA	AG	AG	GG	AA	AA
GG	AG	GG	AA	AA	AA	AG	AG	AG	GG	AG
AA	GG	AG	AA	AA	GG	GG	AA	AA	AG	AA
AG	AG	AA	GG	AA	AG	AG	GG	AG	GG	AG
AG	AA	AG	GG	AA	AA	AA	AG	AG	AG	AG
AG	AG	AG	GG	GG	AG	AG	AA	AA	GG	GG
AA	AG	AA	AG	AA	AA	AA	AA	AG	AA	AG
AG	AG	GG	AG	AG	AA	GG	GG	GG	AG	AG
AA	AG	GG	AA	AG	AA	AG	AA	AA	AG	
GDsnp00638	5	9082273		GG	AG	GG	GG	AG	AG	GG
GG	GG	AG	GG	AG	AG	GG	AG	AG	GG	GG
AG	AG	AG	AG	GG	AG	AG	GG	GG	GG	AG
GG	GG	AG	GG	GG	GG	GG	AG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	AG	GG	GG	GG
GG	GG	GG	AG	AG	GG	GG	AG	GG	GG	AG
AG	GG	AG	GG	GG	GG	GG	GG	GG	GG	AG
AG	GG	GG	GG	GG	AG	GG	GG	AG	GG	GG
GG	GG	AG	GG	GG	AG	GG	AG	GG	GG	

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Supplemental Table 2. Continued.

SNP name		Linkage group		Physical location (bp)		Individuals				
GDsnp02834	5	12769386		AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AG	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
-	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	-	AA	AA	AA	AA	AA	AA	AA	
GDsnp01830	5	14199813		GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	AG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GDsnp01993	5	15377178		AT	TT	AT	AT	AA	TT	TT
AA	AA	AA	AT	TT	TT	AT	AT	AA	AA	AT
TT	TT	AA	AT	TT	AT	AA	TT	TT	TT	TT
AT	AT	TT	AT	TT	AT	AT	AA	AT	AA	AA
TT	AT	TT	AA	TT	TT	TT	AT	AT	AT	TT
AT	AT	AA	AA	AT	AT	AT	TT	TT	AA	AT
TT	TT	TT	AT	TT	TT	TT	TT	AT	TT	TT
AT	AT	AA	AT	AT	TT	TT	AT	AT	TT	AT
TT	AT	AT	TT	AT	TT	AA	TT	AT	TT	
GDsnp00611	5	16418690		AG	GG	GG	GG	AG	AG	GG
GG	GG	AG	GG	AG	GG	GG	GG	AG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	AG	GG	GG	GG	GG	AG	GG	GG	GG
GG	GG	GG	GG	GG	GG	-	AG	GG	GG	GG
GG	GG	GG	AG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	AG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	-	GG	GG	GG	GG	GG	GG	GG	
GDsnp00231	5	17855045		AT	TT	TT	TT	AT	AT	TT
TT	TT	AT	TT	AT	TT	TT	TT	AT	TT	TT
TT	TT	TT	TT	TT	TT	TT	TT	TT	TT	TT
TT	TT	AT	TT	TT	TT	TT	AT	TT	TT	AT
TT	TT	TT	TT	TT	TT	TT	AT	TT	TT	TT
TT	TT	TT	AT	TT	TT	TT	TT	TT	TT	TT
TT	AT	TT	TT	TT	TT	TT	AT	TT	TT	TT
TT	TT	TT	TT	TT	TT	-	AT	TT	TT	TT
TT	TT	TT	TT	TT	TT	AT	TT	TT	TT	
GDsnp01304	5	21598682		AG	GG	GG	AG	GG	GG	AA
AG	GG	AG	AG	AG	GG	GG	GG	GG	GG	AG
AG	AG	GG	AG	AG	GG	GG	AA	AA	AA	AA
AG	AG	AG	GG	AG	AG	GG	GG	AG	GG	GG
AG	GG	AG	GG	AA	AA	AA	-	AG	-	AG
AG	GG	GG	GG	GG	GG	AG	AG	AA	GG	GG
GG	AG	AG	AG	AA	AG	AA	AG	GG	AA	AG
AG	AG	GG	GG	GG	AG	AA	GG	GG	AG	AG
AG	GG	GG	AG	AG	AA	GG	AG	GG	AG	

Continued next page

Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp00806	5	21951956		AC	AA	AA	AC	AA	AA	CC
AC	AA	AC	AC	AC	AA	AA	AA	AA	AA	AC
AC	AC	AA	AC	AC	AA	AA	CC	CC	CC	CC
AC	AC	AC	AA	AC	AC	AA	AA	AC	AA	AC
AC	AA	AC	AC	CC	CC	CC	CC	AC	CC	AC
AC	AA	AA	AA	AA	AA	AC	AC	CC	AA	AA
AA	AC	AC	AC	CC	AC	CC	CC	AA	CC	AC
AC	AC	AC	AA	AA	AC	CC	AA	AA	AC	AC
AC	AA	-	AC	AC	CC	AA	AC	AA	AC	
GDsnp00151	5	21958442		AG	AA	AG	AA	AG	AG	AA
AG	AA	AG	AA	AG	AG	AG	AA	AG	AA	AA
AG	AA	AA	AA	AG	AA	AA	AA	AA	AA	AA
AA	AA	AG	AA	AA	AA	AA	AG	AA	AG	AA
AG	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AG	AA	AG	AA	AA	AA	AA	AA
AG	AG	AA	AA	AA	AA	AA	AA	AG	AA	AA
AA	AG	AA	AG	AA	AA	AA	AG	AA	AA	AA
AA	AG	AA	AG	AA	AA	AA	AA	AG	AA	
GDsnp02701	5	22437370		AA	GG	AG	AG	AG	AG	AA
AG	AG	AA	AG	AA	AG	AG	GG	AG	GG	AG
AA	AG	AG	AG	AA	GG	AG	AA	AA	AA	AA
AG	AG	AA	GG	AG	AG	GG	AG	AG	AG	AG
AA	GG	AG	AG	AA	AA	-	AA	AG	AA	AG
AG	GG	GG	AG	GG	AG	AG	AG	AA	GG	GG
AG	AA	AG	GG	AA	AG	AA	AA	AG	AG	AG
AG	AA	AG	GG	GG	GG	AA	AG	GG	GG	AG
AG	AG	GG	AG	AG	AA	GG	AG	AG	AG	
GDsnp00382	5	25756567		AG	AG	AA	AG	AA	AA	GG
GG	AA	GG	AG	AG	AA	AA	AG	AA	AA	AG
AG	AG	AA	GG	AG	AG	AA	GG	GG	GG	GG
AG	AG	AA	AG	AG	AG	AG	AA	AG	AA	AG
AG	AG	GG	AG	GG	GG	-	GG	AG	GG	AG
GG	AG	AA	AA	AG	AA	AG	AG	AG	AG	AG
AA	AG	GG	AA	AG	AG	AG	GG	AA	AG	GG
AG	AG	AG	AG	AA	AG	GG	AA	AG	AG	AG
AG	AA	AG	GG	AG	GG	AG	GG	AA	GG	
GDsnp01539	5	26802751		AG	AA	AA	AG	AA	AA	GG
AG	AA	GG	AG	AG	AA	AA	AA	AA	AA	AG
AG	AA	AA	AG	AG	AA	AA	GG	GG	GG	GG
AG	AG	AA	AA	AG	AG	AA	AA	AG	AA	AG
AG	AA	AG	AG	GG	GG	GG	GG	AG	AG	AG
AG	AA	AG	AA	AA	AA	AG	AG	AG	AA	AA
AA	AG	AG	AG	AG	AG	AG	AG	AG	AG	AG
AG	AG	AG	AA	AA	AA	GG	AA	AA	AA	AG
AA	AA	AA	AG	AG	GG	AA	AG	AA	AG	
GDsnp00100	5	30768863		AA	AG	AG	AG	AG	GG	AA
AA	GG	AG	AG	AA	AG	AG	AA	AG	GG	AG
AA	AG	AG	AA	AA	AG	AA	AA	AA	AG	AA
GG	GG	GG	AG	AA	AA	AG	AG	AG	GG	AA
AA	AG	GG	AG	GG	AG	AG	AA	AA	AA	AG
AA	AG	GG	AG	AG	AG	AA	GG	AA	AG	AG
AG	AA	AG	GG	AA	GG	AG	AA	AA	GG	AA
AA	GG	GG	AG	GG	AG	AA	AG	AG	GG	AG
AG	AA	AG	AA	GG	AA	GG	AG	AG	AA	

Continued next page

Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp02674	5	31470112		CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	AC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
GDsnp00347	6	410901		AG	AG	AG	AG	GG	AG	AG
GG	AG	AG	AG	GG	AG	AG	AG	GG	AG	AG
AG	AG	GG	AG	AG	AG	GG	AG	AG	AG	GG
GG	GG	AG	GG	AG	AG	AG	GG	GG	GG	GG
GG	GG	GG	AG	AG	GG	-	GG	AG	AG	AG
AG	AG	AG	GG	AG	AG	GG	AG	AG	GG	AG
AG	GG	AG	GG	GG	AG	GG	AG	AG	GG	AG
GG	AG	GG	AG	AG	AG	GG	GG	AG	GG	AG
GG	AG	AG	AG	GG	GG	AG	AG	AG	AG	
GDsnp02001	6	790796		AG	AG	AG	AG	AA	AG	AG
AA	AG	AG	AG	AA	AG	AG	AG	AA	AG	AG
AG	AG	AA	AG	AG	AG	AA	AG	AG	AG	AA
AA	AA	AG	AA	AG	AG	AG	AA	AA	AA	AA
AA	AA	AA	AG	AG	AA	AG	AA	AG	AG	AG
AG	AG	AG	AA	AG	AG	AA	AG	AG	AA	AG
AG	AA	AG	AA	AA	AG	AA	AG	AG	AA	AG
AA	AG	AA	AG	AG	AG	AA	AA	AG	AA	AG
AA	AG	AG	AG	AA	AA	AG	AG	AG	AG	
GDsnp01996	6	1762063		AG	AG	AG	AG	AG	AG	AG
AA	AG	AG	AG	AG	AG	AG	AG	AA	AG	AG
AG	AG	AA	AG	AG	AG	AA	AG	AG	AA	AG
AA	AA	AG	AG	AG	AG	AG	AG	AA	AA	AA
AA	AG	AG	AG	AG	AG	AG	AA	AG	AG	AG
AG	AG	AG	AA	AG	AG	AA	AG	AG	AA	AG
AG	AG	AG	AA	AA	AG	AA	AG	AG	AA	AG
AA	AG	AA	AG	AG	AG	AA	AG	AG	AA	AG
AG	AG	AG	AG	AA	AG	AG	AG	AG	AG	
GDsnp02464	6	2660813		AA	AT	AT	AT	AT	AT	AA
AA	AA	AA	AA	AT	AA	AT	AT	AA	AA	AA
AA	AA	AA	AT	AT	AA	AA	AT	AT	AA	AT
AA	AA	AA	AT	AT	AT	AT	AT	AA	AA	AA
AA	AT	AT	AT	AT	AT	AT	AA	AT	AA	AT
AA	AA	AT	AA	AA	AA	AA	AT	AT	AA	AT
AT	AT	AT	AA	AA	AT	AA	AA	AT	AA	AT
AA	AT	AA	AA	AA	AT	AA	AT	AA	AA	AA
AT	AT	AA	AT	AA	AT	AA	AT	AT	AA	
GDsnp00197	6	5276296		-	CG	CC	GG	GG	CG	-
CC	GG	CG	-	GG	GG	GG	GG	CG	CG	-
CC	CC	CC	-	GG	CC	CC	GG	GG	CC	GG
CC	CC	-	CG	CG	GG	CG	GG	CC	CG	GG
CC	CG	CG	GG	GG	GG	CG	CC	GG	CC	CC
CC	CC	CG	GG	-	CC	CC	GG	GG	CC	GG
CG	CG	CG	CC	CC	GG	CC	CC	GG	CC	GG
CC	GG	CC	CC	CC	GG	CC	CG	-	CC	CC
GG	CG	CC	CG	CC	CG	-	CG	CG	CC	

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Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp00434	6	7475532		AA	AC	AC	AA	AA	AC	AA
AC	AC	AC	AA	AC	AA	AA	AA	AA	AC	AA
AC	AC	AC	AA	AA	CC	-	AA	AA	AC	AA
AC	AC	AA	AC	AC	CC	AC	AA	CC	CC	AA
AC	AC	AC	AA	AA	AC	AC	CC	AA	AC	CC
AC	AC	AC	AA	AA	AC	CC	AA	AA	AC	AC
AC	CC	AC	AC	CC	AA	AC	AC	AA	AC	AA
AC	AA	CC	AC	AC	AA	AC	AC	AA	AC	CC
AA	AC	AC	AC	AA	CC	AA	AC	AC	AC	
GDsnp00967	6	7904258		AA	AG	AG	AA	AA	AG	AA
AA	AG	AG	AA	AG	AA	AA	AA	AG	AG	AA
AG	AG	AG	AA	AA	AG	AG	AA	AA	AG	AA
AG	AG	AA	AG	AG	GG	AG	AA	GG	GG	AA
AG	AG	AG	AA	AA	AG	AG	-	AA	AG	GG
AG	AG	AG	AA	AA	AG	GG	AA	AA	AG	AG
AG	AG	AG	AG	GG	AA	AG	AG	AA	AG	AA
AG	AA	GG	AG	AG	AA	AG	AG	AA	AG	GG
AA	AG	AG	AG	AA	GG	AA	AG	AG	AG	
GDsnp00282	6	15438638		GG	AG	AG	GG	AG	AG	AG
GG	GG	AG	GG	AG	GG	GG	GG	GG	AG	GG
AG	AG	GG	GG	GG	AA	GG	AG	AG	AG	GG
AG	AG	GG	AG	AG	AA	AG	AG	AA	AG	AG
AG	AG	AG	AG	AG	AG	-	-	GG	AG	AA
AG	AG	AA	AG	GG	AG	AA	GG	GG	AG	AG
AG	AA	AG	AG	AA	GG	AG	AG	AG	GG	GG
AG	GG	AA	AG	GG	GG	AG	AG	GG	AG	AG
GG	AG	AG	AG	GG	AG	GG	AG	GG	GG	
GDsnp01556	6	18703773		AG	AG	GG	AG	AG	AG	AG
AG	AA	AA	AA	AG	AA	GG	AG	AG	AG	AG
GG	AG	GG	AG	AG	GG	AG	AG	AG	AG	AG
AG	AG	AG	AG	AA	GG	AG	GG	GG	AG	AG
AG	AG	AA	AG	AG	AG	AG	GG	AG	AG	AG
AG	GG	GG	AG	AG	GG	AG	AA	GG	AG	AG
AA	GG	AG	GG	AG	AG	GG	GG	AG	AG	AG
GG	AA	GG	GG	AA	AA	AA	AG	AA	AG	AG
AG	AG	GG	GG	AA	AG	AG	AG	AA	AG	
GDsnp00218	6	19291994		AT	AT	AA	AT	AT	AT	AT
TT	AA	TT	TT	AT	TT	AA	AT	AT	AT	AT
AA	AT	AA	AT	AT	AA	TT	AT	AT	AT	AT
AT	AT	AT	AT	TT	AA	AT	AA	AA	AT	AT
AT	AT	TT	AT	AT	AT	-	AA	AT	AT	AT
AT	AA	AA	AA	AT	AA	AT	TT	AA	AT	AT
TT	AA	AA	AA	AT	AT	AA	AA	AA	AT	AT
AA	TT	AA	AA	TT	TT	TT	AT	TT	AA	AT
AT	AT	AA	-	TT	AT	AT	AT	TT	-	
GDsnp01502	6	20473595		GG	AA	AA	AG	AG	AG	AG
AG	AG	GG	GG	AG	GG	AA	AG	GG	AG	AG
AA	AG	AG	AG	AG	AA	AG	AG	AG	AG	AG
AG	AG	GG	AG	AG	AA	AG	AA	AA	AG	AG
AG	AG	GG	AG	AG	AG	AG	AA	AG	AG	AG
AG	AA	AA	AG	AG	AA	AG	GG	AA	AG	AG
GG	AA	AA	AA	AG	AG	AA	AG	AA	AG	AG
AA	GG	AA	AA	GG	AG	GG	AG	GG	AA	AG
AG	AG	AA	AA	GG	AG	AA	AG	GG	AG	

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Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp01682	6	21054368		GG	GG	GG	GG	GG	GG	GG
AG	AG	AG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	AG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	AG	GG	GG	GG	GG	GG	AG	AG
GG	GG	AG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	AG	GG	GG	GG	AG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	AG	GG	GG	GG
GG	GG	GG	GG	GG	GG	AG	GG	GG	GG	
GDsnp01574	6	23924169		AA	GG	GG	AG	GG	AG	AG
AA	AG	AA	AG	AG	AG	GG	AA	AG	-	GG
GG	AG	-	AG	AG	GG	AA	AG	AG	GG	AG
AG	AG	AA	AG	AG	AG	AG	GG	GG	AG	-
GG	AG	AA	AG	AG	AG	AG	GG	AG	AG	AG
AG	GG	GG	-	GG	GG	AG	AA	GG	AG	AG
AG	GG	GG	GG	AG	AG	-	AA	GG	AG	GG
-	AA	GG	GG	AA	AG	AA	AG	AA	GG	AG
AG	AG	AG	AG	AA	AG	GG	AA	AA	AG	
GDsnp02138	6	24959354		AC	AA	AA	AC	AA	AC	AC
AC	AA	AC	AC	AC	AC	AA	CC	AC	AA	AA
AA	AC	AA	AC	AC	AA	AC	AA	AA	AA	AC
AC	AC	CC	AA	AC	AC	AC	AA	AA	AA	AA
AA	AA	AC	AA	AC	AC	AA	AA	AC	AC	AC
AC	AA	AA	AA	AA	AA	AC	AC	AA	AC	AC
AC	AA	AA	AA	AA	AA	AA	AC	AA	AA	AA
AA	AC	AA	AA	CC	AC	AC	AA	CC	AA	CC
AC	AC	AC	AC	CC	AC	AA	CC	CC	AC	
GDsnp01994	7	2052413		AG	AA	AA	AA	GG	AA	AG
GG	GG	AG	GG	AG	AG	AG	AA	AA	AA	GG
AA	AA	AG	AG	AA	AG	AG	AA	AA	AA	AA
AA	AG	AG	AG	AG	AA	AA	AG	AA	GG	AA
AA	AA	AG	AA	AG	AA	AA	-	AA	AA	AG
AA	AG	AG	AA	AA	AA	AA	GG	AG	GG	AG
AG	AG	AG	AG	AG	AA	AA	AA	AG	AG	AG
AG	AG	AG	AG	GG	AA	AG	AA	AG	AG	AG
AA	AA	AG	AG	-	AA	GG	AG	AA	AG	
GDsnp00051	7	2871953		CC	CG	GG	CG	CC	CG	CC
CG	CC	CC	CC	CG	CC	CG	CG	CG	CG	CC
GG	GG	CG	CG	GG	CC	CG	CG	CG	GG	CG
GG	CG	CG	CG	CC	GG	GG	CG	CG	CG	CG
GG	GG	CG	GG	CG	CG	-	-	GG	GG	CG
CG	CC	CC	CG	GG	CG	GG	CC	CC	CC	CG
CC	CG	CG	CC	CG	GG	CG	CG	CC	CC	CC
CC	CG	CC	CC	CC	CG	CG	GG	CG	CG	CG
CC	CG	CG	CC	CG	GG	CC	CC	GG	CC	
GDsnp01170	7	4346176		AA	AG	GG	AG	AA	AG	AA
AA	AA	AA	AG	AG	AA	AG	AG	AG	AG	AA
GG	GG	AA	AG	GG	AA	AG	AG	AG	GG	AG
GG	AG	AG	AG	AA	GG	GG	AG	AG	AG	AG
GG	GG	AA	GG	AG	AG	-	-	GG	GG	AG
AG	AA	AA	AG	GG	AG	GG	AA	AA	AA	AG
AA	AG	AG	AA	AG	GG	AG	AG	AA	AA	AA
AA	AG	AA	AA	AA	AG	AG	GG	AG	AG	AG
AA	AG	AG	AA	AG	GG	AG	AA	GG	AA	

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Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp01872	7	6344717		AA	AC	AA	AA	AA	AC	AA
AA	AA	AA	AC	AA	AC	AC	AC	AA	AC	AC
AA	AA	AA	AA	AA	AC	AA	AC	AC	AA	AC
AA	AA	AA	AA	AC	AA	AA	AA	AC	AC	AA
AA	AA	AA	AA	AA	AC	-	AA	AA	AA	AA
AC	AC	AC	AA	AA	AC	AA	AC	AC	AA	AA
AC	AA	AA	AC	AA	AA	AA	AA	AC	AC	AC
AC	AA	AC	AC	AA	AC	AA	AA	AA	AA	AA
AC	AC	AA	-	AC	AA	AA	AC	AA	AC	
GDsnp00224	7	7977984		AG	AG	AG	AG	AG	AG	AG
AG	AA	AA	AA	AG	AA	AG	AG	AG	AA	AA
GG	GG	AG	AG	GG	AA	AG	AG	AG	GG	AG
GG	AG	AG	AG	AA	GG	GG	AG	AG	AA	AG
GG	GG	AA	GG	AG	AG	AG	AG	GG	GG	AG
AG	AA	AA	AA	GG	AG	GG	AA	AA	AA	AA
AA	AG	AG	AA	AG	GG	GG	AG	AA	AA	AA
AA	AG	AA	AA	AG	AG	AG	GG	AG	AG	AG
AA	AG	AG	AA	AG	GG	AG	AA	GG	AA	
GDsnp02274	7	8504851		AT	AT	AT	AT	AT	AT	AT
AT	TT	TT	TT	AT	TT	AT	AT	AT	TT	TT
AA	AT	AT	AT	AA	TT	AT	TT	TT	AA	AT
AA	AT	AT	AT	TT	AA	AA	AT	AT	TT	AT
AA	AA	TT	AA	AT	AT	AT	AT	AT	AA	AT
AT	TT	TT	TT	AT	AT	AA	TT	TT	TT	TT
TT	AT	AT	TT	AT	AA	AA	AT	AT	TT	TT
TT	AT	TT	TT	AT	AT	AT	AA	AT	AT	AT
TT	AT	AT	TT	AT	AA	AT	TT	AA	TT	
GDsnp01074	7	8786777		AG	AG	AG	AG	AG	AG	AG
AG	AA	AA	AA	AG	AA	AG	AG	AG	AA	AA
GG	AG	AG	AG	GG	AA	AG	AA	AA	GG	AG
GG	AG	AG	AG	AA	AG	GG	AG	AG	AA	AG
GG	GG	AA	GG	AG	AG	AG	AG	AG	GG	AG
AG	AA	AA	AA	AG	AG	GG	AA	AA	AA	AA
AA	AG	AG	AA	AG	GG	GG	AG	AG	AA	AA
AA	AG	AA	AA	AG	AG	AG	GG	AG	AG	AG
AA	AG	AG	AA	AG	GG	AG	AA	GG	AA	
GDsnp00247	7	9539157		AG	AG	AG	AG	AG	AA	AG
AG	GG	GG	GG	AG	GG	AG	AG	AG	GG	AG
AA	AG	AG	AG	AA	GG	AG	GG	GG	AA	AG
AA	AG	AA	AG	GG	AG	AA	AG	AG	GG	AG
AA	AA	GG	AA	AG	AG	AA	AG	AG	AA	AA
AG	GG	GG	GG	AG	AG	AA	GG	GG	GG	GG
GG	AG	AG	GG	AG	AA	AA	AG	AG	GG	GG
GG	GG	GG	GG	AG	AG	AG	AA	AG	AG	AG
GG	AG	AG	GG	AG	AA	AG	GG	AA	GG	
GDsnp02840	7	11723850		AC	AC	AC	AC	AC	AC	AC
AC	CC	CC	CC	AC	CC	AC	AA	AC	CC	AC
AA	AC	AC	AC	AA	CC	AC	AC	AC	AA	AC
AA	AC	AA	AC	CC	CC	AA	AC	AC	CC	AA
AC	AA	CC	AA	AC	AC	AA	AC	AC	AA	AA
AC	CC	AC	CC	AC	AC	AA	CC	CC	CC	CC
CC	AC	AC	CC	AC	AA	AA	AC	AC	CC	CC
CC	CC	CC	CC	AC	AC	AC	AA	AC	AC	AC
CC	AC	AC	CC	AC	AA	AC	CC	AA	CC	

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Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp02657	7	14319903		AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
GDsnp01848	7	14397836		AT	AT	AT	AT	AT	AT	AT
AA	AT	AA	AA	AT	AA	AT	TT	AT	AA	AT
TT	AT	AT	AT	TT	AA	TT	AT	AT	TT	AT
TT	AT	TT	AT	AA	AA	TT	AT	AT	AA	TT
AT	TT	AA	TT	AT	AT	TT	AT	AT	TT	TT
AT	AA	AT	AA	AT	AT	TT	AA	AA	AA	AA
AA	AT	AT	AA	AT	TT	AT	AT	AT	AA	AA
AA	AA	AA	AA	AT	AT	AT	TT	AT	AT	AT
AA	AT	AT	AA	AT	TT	AT	AA	TT	AA	
GDsnp00256	7	17033576		AT	AT	AT	AT	AT	AT	AA
TT	AT	TT	AT	AT	TT	AT	AA	TT	TT	AT
AA	AT	AT	AT	AA	TT	AA	AT	AT	AA	AT
AA	AT	AA	AT	TT	TT	AA	AA	AT	AT	AA
AT	AA	TT	AA	AT	AT	AA	AT	AT	AA	AA
AT	TT	AA	TT	AT	AT	AA	TT	TT	TT	TT
TT	AT	AT	TT	AT	AA	TT	AT	AT	TT	TT
TT	TT	AT	TT	TT	AT	AT	AT	AT	AT	AT
TT	AT	AT	TT	AT	AA	AT	TT	AA	TT	
GDsnp02436	7	17901742		AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	-	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
GDsnp02291	7	21085447		CC	AC	AC	AC	AC	AC	CC
AA	AC	AA	AA	AC	AA	AC	CC	AA	AA	AC
CC	AC	AC	AC	AC	AA	CC	AC	AC	CC	AC
CC	AC	CC	AC	AA	AA	CC	CC	AC	AA	CC
AC	CC	AA	CC	AC	AC	CC	CC	AC	CC	CC
AA	AA	CC	AA	AC	AC	CC	AA	AC	AA	AA
AA	AC	AC	AA	AC	CC	AA	AC	AC	AA	AA
AC	AA	AC	AC	AA	AC	AC	AC	AC	AC	AC
AA	AA	AC	AA	AC	CC	AC	AC	CC	AC	
GDsnp01040	7	21820259		AG	AA	AG	AG	GG	AG	AA
AG	AG	GG	AG	AG	GG	AG	AA	GG	AG	AG
AA	AG	AG	AG	AG	GG	AG	GG	GG	AG	AG
AG	AA	AG	AG	GG	GG	AA	AA	AA	AG	AA
AG	AA	GG	AG	AG	AG	AA	AA	AG	AA	AA
AG	AG	AA	GG	AG	AG	AA	AG	AG	GG	GG
GG	AG	AG	GG	AG	AA	GG	AG	AG	GG	GG
GG	GG	AG	AG	GG	AG	AG	GG	AG	AG	AG
AG	GG	AG	AG	AG	AA	AG	AG	AA	AG	

Continued next page

Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp00527	8	588425		AG	AG	GG	AG	AG	GG	AG
AG	AG	AA	AG	GG	GG	GG	AA	AA	AG	AG
AA	AG	AG	GG	AG	AA	GG	AA	AA	GG	AG
AG	AG	AG	AA	GG	GG	AG	AA	AG	AA	GG
AG	AA	AG	AG	AG	AA	-	AG	AG	AG	AG
AA	AA	AG	AG	GG	AA	AG	AA	AA	AG	GG
AG	AG	AG	AG	AG	AA	GG	AG	GG	AA	AG
AG	GG	GG	GG	AA	AG	AG	AA	AG	AG	AG
AA	AA	AG	AA	GG	AG	AG	AG	GG	AA	
GDsnp00503	8	669437		AG	AG	GG	AG	AG	GG	AG
GG	AA	AA	AG	GG	GG	GG	AA	AA	AG	AG
AA	AG	AA	GG	AG	AG	AG	AA	AA	GG	GG
AG	AG	AG	AG	GG	GG	AG	AG	AG	AG	GG
GG	AA	AG	AG	AG	AG	AG	AG	AG	AG	AG
AA	AA	AG	GG	GG	AA	AG	AG	AA	GG	GG
AG	AG	AG	AG	AG	AA	GG	AG	GG	AA	AG
AG	GG	GG	GG	AA	AG	AG	AG	AG	AG	AG
AA	AA	AG	AA	GG	AG	AA	GG	GG	AA	
GDsnp00175	8	697817		AG	AG	AA	AG	AG	AA	AG
AA	GG	GG	AG	AA	AA	AA	GG	GG	AG	AG
GG	AG	GG	AA	AG	AG	AG	GG	GG	AA	AA
AG	AG	AG	AG	AA	AA	AG	AG	AG	AG	AA
AA	GG	AG	AG	AG	AG	AG	AG	AG	AG	AG
GG	GG	AG	AA	AA	GG	AG	AG	GG	AA	AA
AG	AG	AG	AG	AG	GG	AA	AG	AA	GG	AG
AG	AA	AA	AA	GG	AG	AG	AG	AG	AG	AG
GG	GG	AG	GG	AA	AG	AG	AA	AA	GG	
GDsnp00487	8	1278221		AG	AG	GG	AG	AG	GG	AA
GG	AG	AG	AG	GG	GG	GG	AA	AA	AG	AG
AA	AG	AG	GG	AG	AG	GG	AA	AA	GG	GG
AG	AG	AG	AG	GG	GG	AG	AG	AG	AG	GG
GG	AA	AG	AG	AG	AG	AG	AG	AG	AG	AG
AA	AA	AG	GG	GG	AA	AG	GG	AA	GG	GG
AG	AG	AG	AG	AG	AA	GG	AG	GG	AA	AG
AG	GG	GG	GG	AG	AG	AG	AG	AG	AG	AG
AA	AA	AG	AA	GG	AG	AG	GG	GG	AA	
GDsnp00688	8	1674574		AT	AT	TT	AT	AT	TT	AA
TT	AA	AT	AT	TT	TT	TT	AA	AA	AT	AT
AA	AT	AT	TT	AT	AT	AT	AA	AA	TT	TT
AT	AT	AT	AT	TT	TT	AT	AT	AT	AT	TT
TT	AA	AT	AT	AT	AT	AT	AT	AT	AT	AT
AA	AA	AT	TT	TT	AA	AT	TT	AA	TT	TT
AT	AT	AT	AT	AT	AA	TT	AT	TT	AA	AT
AT	TT	TT	TT	AT	AT	AT	AT	AT	AT	AT
AA	AA	AT	AA	TT	AT	AT	TT	TT	AA	
GDsnp01059	8	7697889		CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	-	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	-	-	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC

Continued next page

Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp00316	8	8090809		AT	AT	TT	AA	AT	TT	AA
AT	AT	AT	AA	TT	TT	TT	AA	AA	AT	AT
AA	AT	AT	AT	AT	AA	TT	AT	AT	TT	AT
AT	AT	AT	AA	TT	TT	AA	AT	AT	AA	TT
AT	AA	AT	AT	AA	AA	AT	AT	AT	AT	AT
AA	AA	AT	AT	TT	AT	AT	AT	AT	AT	TT
AT	AT	AT	AT	AT	AA	AT	AT	TT	AT	TT
AT	TT	TT	TT	-	AT	AT	AA	AT	AT	AT
AA	AT	AT	AA	AT	AA	AA	AT	TT	AA	
GDsnp00188	8	8170368		-	AG	GG	AA	AG	GG	AA
GG	AG	AG	AA	GG	GG	GG	AA	AA	AG	AG
AA	AG	AG	AG	AG	AA	GG	AG	AG	GG	AG
AG	AG	AG	AA	GG	GG	AA	AG	AG	AA	GG
AG	AA	AG	AG	AA	AA	AG	AG	AG	AG	AG
AA	AA	AG	AG	GG	AG	AG	AG	AG	AG	GG
AG	AG	AG	AG	AG	AA	AG	AG	GG	AG	GG
AG	GG	GG	GG	AG	AG	AG	AA	AG	AG	AG
AA	AG	AG	AA	AG	AA	AA	AG	GG	AA	
GDsnp00204	8	9358626		GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	AG	GG	GG	GG	GG	AG
GG	GG	GG	AG	GG	GG	GG	AG	GG	AG	GG
AG	GG	GG	GG	GG	AG	GG	AG	GG	GG	GG
GG	GG	GG	-	GG	GG	GG	AG	GG	AG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	AG	GG	GG	GG
GG	GG	GG	GG	AG	GG	GG	AG	GG	GG	
GDsnp00209	8	12235175		AA	AA	AA	AA	AA	AA	AA
AG	AA	AA	AG	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AG	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AG	AA	AA	AA	
GDsnp00639	8	12360703		AA	AA	AA	AA	AA	AA	AA
AC	AA	AA	AC	AA	AA	AA	AA	AA	AA	AA
AA	AC	AC	AA	AA	AC	AA	AA	AA	AA	AC
AA	AA	AA	AA	AA	AA	AA	AA	AA	AC	AA
AA	AA	AA	AA	AA	AC	AA	AC	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AC	AA	AC	AA
AA	AA	AA	AA	AA	AA	AC	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AC	AA	AC	AC	AA	AA	
GDsnp00354	8	13083911		AA	AA	AA	AA	AA	AA	AA
-	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AG	AG	AA	AA	AG	AA	AG	AG	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AG	AG	AA
AA	AA	AA	AG	AG	AG	-	AG	AA	AA	AG
AA	AA	AA	AA	AA	AA	AA	AG	AA	AG	AA
AA	AA	AA	AA	AA	AG	AG	AA	AA	AA	AA
AA	AA	AA	AA	AG	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AG	AA	AA	AG	AA	AA	

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Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp00086	8	13722120		GG	GG	GG	GG	GG	GG	GG
AG	AG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	AG	AG	GG	GG	AG	AG	AG	AG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	AG	AG	GG
GG	GG	GG	AG	AG	AG	-	AG	GG	GG	AG
GG	GG	GG	GG	GG	GG	GG	AG	GG	AG	GG
GG	GG	GG	GG	GG	AG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	AG	GG	GG	
GDsnp01048	8	14914825		GG	GG	GG	GG	GG	GG	GG
CG	CG	GG	GG	GG	GG	GG	GG	GG	CG	GG
GG	CG	CG	GG	GG	CG	CG	CG	CG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	CG	CG	GG
GG	GG	GG	CG	CG	CG	-	CG	GG	GG	CG
GG	GG	GG	GG	GG	GG	GG	CG	GG	CG	GG
GG	GG	GG	GG	GG	CG	GG	GG	GG	-	GG
GG	GG	GG	GG	CG	-	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	CG	GG	GG	
GDsnp00627	8	15854892		AG	AG	GG	AA	AA	GG	AA
AG	AA	AG	AA	GG	GG	GG	AG	AG	AG	GG
AA	AG	AA	AG	AG	AA	AG	AG	AG	GG	AG
AG	AA	AG	AA	GG	GG	AA	GG	AG	AG	GG
GG	AA	AA	AG	AA	AA	AG	GG	AG	AA	AG
AA	AA	AG	AA	GG	AG	AG	AG	AG	AG	GG
AG	AG	GG	AG	AG	AA	AA	AG	GG	AG	GG
AG	AG	GG	AG	AA	AG	AG	AA	AG	AG	AA
AG	AG	AG	AA	AG	AA	AA	AG	GG	AA	
GDsnp00862	8	17090019		GG	GG	GG	GG	GG	GG	GG
AG	AG	AG	AG	GG	GG	GG	GG	GG	AG	GG
GG	AG	AG	GG	GG	AG	AG	AG	AG	GG	GG
GG	AG	GG	GG	GG	GG	GG	GG	AG	GG	GG
GG	GG	GG	AG	AG	AG	AG	GG	GG	GG	AG
GG	GG	GG	AG	GG	GG	GG	AG	GG	AG	GG
GG	GG	GG	GG	GG	AG	GG	AG	GG	GG	GG
GG	AG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	
GDsnp00320	8	19659151		AA	AA	AA	AA	AA	AA	AA
AA	AA	AG	AG	AA	AA	AA	AA	AA	AA	AA
AA	AA	AG	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AG	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AG	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AG	AA	AA	AA	
GDsnp01598	8	20841241		CC	CC	CC	-	-	CC	-
CC	-	AC	AA	CC	CC	CC	CC	CC	CC	CC
-	CC	-	CC	CC	-	CC	CC	CC	CC	CC
CC	-	CC	CC	CC	CC	-	CC	CC	-	CC
CC	-	-	CC	-	-	CC	CC	CC	-	CC
-	-	CC	AA	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	-	-	AA	CC	CC	CC
CC	CC	CC	CC	-	CC	CC	-	CC	CC	-
CC	CC	CC	-	CC	-	CC	CC	CC	CC	

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Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp01405	8	24394052		GG	GG	GG	GG	GG	AG	GG
GG	AG	GG	GG	GG	GG	GG	GG	GG	AG	GG
GG	AG	AG	GG	GG	AG	AG	AG	AG	GG	GG
GG	AG	GG	GG	AG	GG	GG	GG	AG	GG	GG
GG	GG	GG	AG	GG	AG	AG	GG	AG	GG	AG
GG	GG	AG	AG	GG	GG	GG	AG	GG	GG	GG
GG	GG	GG	GG	GG	AG	GG	GG	GG	GG	GG
GG	AG	GG	GG	AG	GG	AG	GG	GG	GG	AG
GG	GG	GG	GG	GG	AG	AG	GG	GG	GG	
GDsnp00342	8	25085251		AA	AG	AG	AA	AA	AA	AA
AA	AA	AA	AG	AA	AG	AG	AG	AA	AG	AG
AG	AA	AA	AA	AA	AA	AA	AA	AA	AG	AA
AG	AA	AG	AG	AA	AG	AG	AG	AA	AA	AG
AG	AA	AG	AA	AG	AA	-	AG	AA	AA	AA
AA	AA	AA	AA	AG	AG	AG	AA	AG	AA	AG
AG	AG	AG	AG	AG	AA	AA	AG	AA	AG	AG
AG	AA	AG	AA	AA	AG	AA	AA	AA	AG	AA
AA	AG	AG	AG	AA	AA	AA	AA	AA	AG	
GDsnp00975	8	26691557		AG	GG	AG	AG	GG	AA	GG
AG	AG	AG	GG	AG	AG	AG	AG	AG	AG	AG
GG	AA	GG	GG	AG	AA	AG	AA	AA	AG	AG
GG	GG	GG	AG	AA	AG	GG	AG	AA	AG	AG
AG	AG	GG	AA	GG	GG	AA	GG	AA	AG	AA
GG	AG	GG	AG	AG	GG	AG	AA	AG	AG	AG
GG	GG	AG	GG	GG	GG	GG	GG	AG	AG	AG
AG	GG	GG	GG	AG	GG	GG	AG	GG	GG	GG
AA	GG	GG	AG	AG	GG	GG	AG	AG	GG	
GDsnp01862	8	27487825		AG	AG	AG	AG	GG	AA	AG
AA	GG	AG	GG	AG	AA	AA	AA	AG	AA	AG
AA	AA	GG	GG	AG	AA	AA	AA	AA	AA	AG
AG	AG	AG	AA	AA	AG	AG	AA	AA	AG	AA
AA	AA	AG	AA	AG	AG	AA	AG	AA	AG	AA
GG	AG	AG	GG	AA	GG	AA	AA	AA	AG	AA
GG	AG	AA	AG	AG	AG	GG	GG	AG	AA	AA
AA	AG	AG	GG	AA	AG	AA	AG	GG	AG	AG
AA	AG	AG	AA	AG	AG	AG	AG	AG	AG	
GDsnp01386	9	298950		AA	AA	AC	AC	CC	AC	AA
AA	AA	AC	AC	AC	AC	AA	CC	AC	AC	AC
CC	AA	CC	AC	AA	AC	AC	CC	CC	CC	CC
AC	AC	AC	AC	CC	CC	CC	AA	CC	AC	AC
AC	AC	AC	AC	AC	AC	AA	AA	AA	CC	CC
AC	CC	CC	AA	CC	AC	AA	CC	AA	CC	AC
CC	AC	CC	AA	AC	AC	AC	AA	AA	AA	AC
AC	AC	AC	AC	AC	AC	AC	AC	AC	AC	AC
CC	AA	CC	AA	CC	AC	CC	AC	AA	AC	
GDsnp01189	9	588295		AA	AA	AG	AG	GG	AG	AA
AG	AG	AG	AG	AG	AG	AA	GG	AG	AG	AG
GG	AA	GG	AG	AA	AG	AG	AG	AG	GG	GG
AG	AG	AG	AG	GG	GG	GG	AG	GG	AG	AG
AG	AG	AG	AG	AG	AG	AA	AA	AA	GG	AG
AG	GG	GG	AA	GG	AG	AA	GG	AA	GG	AG
GG	AG	GG	AA	AG	AG	AG	AA	AA	AA	AG
-	AG	AG	AG	AG	AG	AG	AG	AG	AG	AG
GG	AA	GG	AA	GG	AG	GG	AG	AA	AG	

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Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp02013	9	1302649		AC	CC	AC	AC	AA	AC	CC
AC	AC	AC	AC	AC	AC	CC	AA	AC	AC	AC
AA	CC	AA	AC	CC	AC	AC	AC	AC	AA	AA
AC	AC	AC	AC	AA	AA	AA	AC	AA	CC	AC
AC	AC	AC	AC	AC	AC	-	CC	CC	AA	AC
AC	AA	AA	CC	AA	AC	CC	AA	CC	AA	AC
AA	AC	AA	CC	AC	AC	AC	CC	CC	CC	AC
AC	AC	AC	AC	AC	AC	AC	AC	AC	AC	AC
AA	CC	AA	AC	AA	AC	AA	AC	CC	AC	
GDsnp00298	9	3042217		CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	-	CC	CC	CC	CC
GDsnp00033	9	3144298		CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	-	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	AC	CC	CC	CC	CC
GDsnp01524	9	3786996		GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	AG	GG	GG	GG	GG
GDsnp01911	9	4414354		AT	TT	AT	AT	TT	TT	AT
AA	AT	-	AT	TT	TT	AT	TT	AT	TT	TT
TT	TT	AT	AT	-	TT	TT	-	AT	TT	TT
AT	-	TT	TT	TT	AT	AT	TT	AT	AA	TT
TT	TT	TT	TT	TT	TT	-	AT	AT	TT	AT
AT	TT	TT	-	TT	-	AT	TT	AT	TT	AT
-	TT	TT	AT	AT	AT	TT	TT	AT	AT	-
TT	TT	TT	TT	AT	AT	AT	TT	AT	TT	TT
TT	AT	TT	AT	TT	TT	AA	TT	AT	-	
GDsnp00514	9	5423622		GG	AG	AG	AG	AG	AG	GG
GG	AG	AG	AG	AG	AG	GG	AG	GG	AA	GG
AA	GG	AG	GG	GG	AG	AG	AG	AG	AA	AA
GG	AG	AG	AG	AA	AG	AG	GG	AG	GG	AG
GG	AG	GG	AG	AA	AG	GG	-	AG	AA	AG
AG	AA	AA	GG	AA	GG	GG	AA	GG	AG	AG
AG	AG	AA	GG	AG	GG	AG	AG	GG	GG	GG
AG	AG	AG	AG	GG	AG	AG	GG	AA	GG	AG
AA	GG	AA	GG	AG	AG	AG	GG	GG	AG	

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Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp00893	9	7646475		AA	AG	AA	AA	AA	AG	GG
GG	AG	AA	AA	AA	AG	AG	AG	GG	AG	GG
AA	GG	AA	AG	AG	AG	AG	AG	AG	AA	AG
GG	AG	AG	AG	AA	AA	AA	GG	AG	GG	AA
GG	AG	GG	AG	AA	AG	GG	GG	AG	AA	AG
AA	AA	AA	GG	AA	AG	GG	AA	GG	AA	AG
AA	AG	AA	GG	AG	GG	AG	AG	AG	GG	AG
AG	AG	AG	AG	AA	AA	AA	GG	AA	GG	AA
AA	AG	AA	AG	AA	AG	AG	GG	AG	AA	
GDsnp00337	9	8279701		AG	AG	AA	AA	AG	AG	GG
GG	AA	AA	AG	AG	AG	AG	AG	GG	AG	AG
AA	GG	AG	AG	AG	AG	AG	AG	AG	AG	AG
GG	AG	AG	AG	AA	AG	AA	GG	AG	GG	AG
GG	AG	GG	AG	AA	AG	AG	GG	AG	AA	AG
AA	AA	AG	GG	AA	AG	GG	AA	GG	AG	AG
AG	AG	AA	GG	AA	GG	AG	AG	AG	GG	AG
AG	AG	AG	AG	AG	AA	AA	GG	AA	GG	AA
AA	AG	AA	AG	AG	AG	AG	GG	AG	AA	
GDsnp00045	9	9617364		CC	AC	CC	CC	CC	AC	AC
AA	AC	CC	CC	CC	AC	AC	AC	AC	AC	CC
CC	AA	CC	AC	AC	AC	AC	AC	AC	AC	AC
AA	AC	AC	AC	CC	AC	CC	AC	AC	AA	CC
AC	AC	AC	AA	CC	AC	AC	AA	AC	AC	AC
CC	CC	AC	AC	CC	AC	AA	CC	AA	CC	AC
AC	AC	CC	AA	CC	AC	AC	AC	AC	AA	AC
AC	AC	AC	AC	CC	CC	CC	AC	CC	AA	CC
CC	AC	CC	AC	CC	AC	AC	AC	AC	CC	
GDsnp00343	9	10970803		GG	AG	AG	GG	GG	AG	AG
AG	AG	GG	GG	GG	AG	AA	AG	AG	AG	GG
GG	AA	GG	AA	AA	AG	AG	AG	AG	AG	AG
AA	AG	AG	AG	GG	AG	AG	AG	AG	AG	AG
AG	AG	AG	AA	GG	AG	AG	AG	AG	AG	AG
AG	GG	AG	AG	GG	AA	AA	GG	AA	GG	AA
AA	AG	GG	AA	GG	AG	AG	AG	AA	AA	AA
AG	AG	AG	AA	GG	AG	GG	AG	GG	AG	GG
GG	AA	GG	AA	GG	AG	AG	AG	AA	AG	
GDsnp01880	9	12153693		CC	CG	CG	CC	CC	CG	CG
CG	CC	CC	CC	CC	CG	GG	CG	CG	CG	CC
CC	GG	CC	GG	GG	CG	CG	CG	CG	CG	CG
GG	CG	CG	CG	GG	CG	CG	CG	CG	CG	CG
CG	GG	CG	GG	CC	CG	CG	CG	CG	CG	CG
CG	CC	CG	CG	CC	GG	GG	CC	GG	CC	GG
GG	CG	CC	GG	CC	CG	CG	CG	GG	GG	GG
CC	CG	CG	GG	CC	CG	CC	CG	CG	CG	CC
CC	GG	CC	GG	CC	CG	CG	CG	GG	CG	
GDsnp00331	9	12289241		-	GG	GG	-	GG	-	GG
AG	GG	-	AA	GG	GG	GG	GG	AG	GG	GG
-	GG	AA	GG	GG	GG	AG	GG	GG	GG	GG
GG	GG	-	GG	GG	GG	GG	GG	GG	GG	AG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	-	GG	AG	-	GG	GG	-	GG	GG	GG
GG	GG	-	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	-	GG	GG	GG	-	GG	-
-	GG	-	GG	GG	GG	GG	GG	GG	GG	

Continued next page

Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp00958	9	13453035		AA	AC	AC	AA	AC	AA	AC
AC	AC	AA	AA	AC	AC	CC	AC	AC	AC	AA
AA	CC	AA	CC	CC	AC	AC	AC	AC	AC	AC
CC	AC	AA	AC	CC	AC	AC	CC	AC	CC	AC
CC	CC	CC	CC	AC	AC	CC	AC	AC	AC	AC
AC	AA	AC	AC	AA	AC	CC	AA	CC	AC	CC
CC	AC	AA	CC	AC	AC	AC	AC	CC	CC	CC
AC	AC	CC	CC	AC	AC	AC	CC	AC	AC	AA
AC	CC	AA	AC	AC	AC	AC	CC	CC	AC	
GDsnp02460	9	18384592		GG	AG	GG	GG	AG	GG	AA
AA	AG	AG	GG	AG	AG	AG	AG	AA	AA	GG
AG	AA	GG	AA	AA	AG	AG	AG	AG	AG	AG
AA	AG	GG	AG	AA	AG	AG	AA	AG	AA	AG
AA	AA	AA	AA	AG	AG	AA	AG	AG	AG	AG
AG	GG	AG	GG	GG	AG	AA	GG	AA	AG	AA
AA	AG	GG	AA	AA	AG	AA	AG	AA	AG	AA
AG	AG	AA	AA	GG	AG	AG	AA	AG	AG	GG
AG	AA	GG	AG	AG	AG	AG	AA	AA	GG	
GDsnp02845	9	19221884		CC	AC	CC	AC	AC	CC	AC
AC	CC	AC	CC	AC	AC	AC	AC	AC	AA	CC
AC	AC	CC	AA	AA	AC	AC	AC	AC	AC	AC
AA	AC	CC	AC	AA	AC	AC	AA	AC	AC	AC
AA	AA	AA	AA	AC	AC	AA	AC	AC	AC	AC
AC	CC	AC	CC	CC	AC	AA	CC	AA	AC	AA
AA	AC	CC	AA	AA	AC	AA	AC	AA	AC	AA
AC	AC	AA	AA	CC	AA	AC	AC	AC	AC	CC
AC	AA	CC	AC	AC	AC	AC	AA	AA	CC	
GDsnp02071	9	24723288		GG	GG	GG	GG	GG	GG	GG
AG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	AG	GG	GG	GG	AG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GDsnp02437	9	26578275		AA	AA	AA	AA	AA	AA	AA
AC	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AC	AA	AA	AA	AC	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
GDsnp02482	9	27905275		AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	-	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	

Continued next page

Supplemental Table 2. Continued.

SNP name		Linkage group		Physical location (bp)		Individuals				
GDsnp02581	9	28083974		AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AG	AA	AA	AA	AG	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
GDsnp00205	9	29375585		AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	-	AA
AA	AA	AA	AA	AA	AA	AA	AG	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AG	AA	AA	AA
AA	AA	AA	AA	AG	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
GDsnp00452	9	30412974		AC	AA	AC	AA	AC	AC	AA
AC	AC	AC	AA	CC	AA	AA	AA	AA	AA	AC
AA	AC	AC	AA	AA	AC	AA	CC	CC	AA	AC
AC	AC	AC	CC	AA	AC	AC	AA	AC	AA	AA
CC	AA	AC	AC	CC	AC	AC	CC	AC	AA	CC
AC	AC	AC	AC	AC	AA	CC	AC	AC	CC	AA
AA	AC	AC	AA	AC	AC	AA	AC	AA	CC	AA
CC	CC	AC	AA	AC	AA	CC	CC	AA	AC	AC
AC	AA	AC	AA	CC	AC	AC	AA	AA	AC	
GDsnp00766	9	30472702		GG	AA	GG	AG	AG	GG	AG
GG	GG	GG	AG	GG	AG	AG	AG	AG	AG	AG
AA	GG	GG	AA	AA	GG	AG	GG	GG	AA	AG
AG	AG	GG	GG	AA	AG	AG	AA	AG	AA	AG
GG	AA	AG	AG	GG	AG	AG	GG	AG	AG	GG
AG	GG	AG	GG	AG	AG	GG	GG	AG	GG	AA
AG	AG	AG	AA	AG	AG	AA	AG	AA	GG	AA
GG	GG	AG	AA	AG	AA	GG	GG	AG	AG	GG
AG	AA	GG	AG	GG	AG	AG	AG	AA	GG	
GDsnp00106	10	736211		AA	AA	AA	AA	AG	AG	AA
AG	AA	AA	AG	AA	AA	AA	AA	AA	AG	AG
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AG	AA	AA	AA	AG	AA	AA	AG
AA	AA	AG	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AG	AA	AA	AA	AA	AA	AA	AA
AA	AG	AA	AA	AA	AA	AG	AG	AA	AA	AA
AG	AA	AA	AA	AA	AA	AA	AG	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	
GDsnp01810	10	3310494		AA	AA	AA	AC	AC	AC	AC
AC	AA	AA	AC	AC	AA	AA	AA	AC	AA	AC
AA	AA	AC	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AC	AA	AA	AA	AC	AA	AC	AC
AA	AA	AC	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AC	AA	AA	AA	AC	AA	AA	AA
AA	AC	AA	AA	AA	AA	AC	AC	AA	AA	AA
AC	AA	AA	AA	AC	AA	AA	AC	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AC	AA	AA	

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Supplemental Table 2. Continued.

SNP name		Linkage group		Physical location (bp)		Individuals				
GDsnp00875	10	8104933		AA	AA	AA	AC	AC	AC	AC
AC	AA	AA	AC	AC	AA	AA	AA	AC	AC	AC
AA	AA	AC	AA	AA	AA	AC	AA	AA	AA	AA
AA	AA	AC	AC	AA	AA	AA	AA	AA	AC	AC
AA	AA	AC	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AC	AA	AA	AA	AC	AA	AA	AA
AA	AC	AA	AA	AA	AA	AA	AC	AA	AA	AA
AC	AC	AA	AA	AA	AA	AA	AC	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AC	AA	AA	
GDsnp01267	10	12373904		AA	AA	AA	AA	AA	AG	AA
AA	AA	AA	AG	AA	AA	AA	AA	AG	AG	AA
AA	AA	AG	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AG	AA	AA	AA	AA	AA	AA	AG	AG
AA	AA	AA	AA	AA	AA	AA	AG	AA	AA	AA
AA	AA	AA	AG	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AG	AA	AA	AA
AG	AG	AA	AA	AA	-	AA	AA	AA	AA	AA
AA	AA	AA	-	AA	AA	AG	AG	AA	AA	
GDsnp01710	10	14182739		AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
GDsnp02183	10	16995920		AA	AG	AG	AG	AG	AA	AG
GG	GG	AA	GG	AG	AA	AG	AG	AG	GG	AG
GG	AG	GG	AA	AA	AG	AG	AA	AA	AG	AA
AG	AG	GG	AG	AG	GG	AG	GG	AG	GG	-
GG	AA	AG	AG	AG	AG	GG	GG	AG	GG	AG
AG	AA	AG	GG	AG	AG	AG	GG	AG	GG	AG
AG	AG	AG	AA	AA	AA	GG	GG	AG	AG	AG
GG	AG	AG	AG	AG	AA	AA	AG	AG	AG	AA
AA	AA	AA	-	AG	AG	AG	GG	GG	AG	
GDsnp02072	10	17672554		GG	GG	GG	GG	GG	GG	GG
-	AG	GG	AG	GG	GG	GG	GG	AG	GG	GG
GG	GG	AG	GG	GG	GG	AG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	AG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	AG	GG	GG	GG
GG	GG	GG	GG	GG	GG	AG	AG	GG	GG	GG
AG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	AG	GG	GG	AG	GG	GG	
GDsnp00355	10	25981281		AT	AT	AA	AT	AT	AA	TT
TT	TT	AT	TT	AT	AA	AT	AT	TT	TT	TT
AT	AT	TT	AT	AT	AA	TT	AA	AA	AT	AT
AT	TT	AT	TT	AT	AT	AT	AT	AT	AT	AT
AT	AT	AT	AT	AT	TT	-	TT	AT	TT	TT
AT	TT	AT	AT	AT	AT	AT	TT	AT	AT	AA
AT	AT	AT	AA	AA	AA	TT	AT	AT	AT	AT
TT	AT	AT	AT	AT	AA	AA	TT	AT	AT	AA
AA	AA	AA	TT	AT	AT	AA	TT	AT	AT	

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Supplemental Table 2. Continued.

SNP name		Linkage group		Physical location (bp)		Individuals				
GDsnp00360	10	26173385		AC	AC	CC	AC	AC	CC	AA
AC	AA	AC	AA	AC	CC	AC	AC	AA	AA	AA
AC	AC	AA	AC	AC	CC	AA	CC	CC	AC	AC
AC	AA	AC	AA	AC	AC	AC	AC	AC	AC	AC
AC	AC	AC	AC	AC	AA	-	AA	AC	AA	AA
AC	AA	AC	AC	AC	AC	AC	AA	AC	AC	CC
AC	AC	AC	CC	CC	CC	AA	AA	AC	AC	AC
AA	AC	AC	AC	AA	CC	CC	AA	AC	AC	CC
CC	CC	CC	AA	AC	AC	CC	AA	AC	AC	
GDsnp00099	10	27409151		AA	AC	AA	AC	AA	AA	AC
CC	AC	AC	CC	AC	AA	AC	AC	CC	CC	AA
AC	AC	AC	AC	AC	AA	AC	AA	AA	AC	AC
AC	CC	AC	AA	AC	AC	AC	AA	AC	AC	AC
AC	AC	AC	AC	AC	CC	CC	AA	AC	CC	CC
AC	CC	AC	AC	AC	AC	AC	AC	CC	AC	AA
AC	AC	AC	AA	AA	AA	AC	AC	AA	AC	AC
-	AC	AC	AC	AC	AA	AA	AC	AC	AA	AA
AA	AA	AC	AC	AA	AC	AA	AC	AC	AC	
GDsnp01761	10	31910794		AA	AA	AA	AA	AA	AA	AA
AA	AA	AG	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AG	AA	AA	AA	
GDsnp00405	10	32186209		GG	GG	GG	GG	GG	GG	GG
AG	GG	AG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	AG	GG
GG	GG	GG	GG	GG	GG	-	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	AG	GG	GG	GG	
GDsnp00253	11	545684		AT	TT	TT	TT	TT	TT	AT
AT	AT	TT	TT	TT	AT	AT	AT	AT	TT	TT
TT	TT	TT	TT	AT	TT	TT	TT	TT	TT	TT
AT	TT	TT	TT	TT	TT	TT	TT	TT	TT	TT
TT	TT	TT	TT	TT	TT	TT	TT	TT	TT	TT
TT	TT	TT	AT	TT	AT	TT	TT	TT	TT	TT
AT	TT	AT	TT	TT	TT	TT	TT	AT	TT	TT
AT	TT	TT	TT	TT	AT	TT	TT	AT	TT	TT
TT	AT	AT	AT	TT	TT	AT	TT	AT	AT	
GDsnp00281	11	1622012		GG	AG	AG	GG	GG	AG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
AG	GG	AG	AG	GG	GG	GG	GG	GG	GG	GG
GG	GG	AG	GG	GG	GG	AG	GG	GG	GG	AG
GG	GG	GG	GG	GG	GG	-	GG	GG	GG	GG
AG	AG	GG	GG	AG	GG	GG	AG	GG	GG	AG
GG	GG	GG	GG	GG	GG	GG	AG	GG	GG	AG
GG	AG	GG	AG	AG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	AG	GG	GG	

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Supplemental Table 2. Continued.

SNP name		Linkage group		Physical location (bp)		Individuals				
GDsnp00351	11	3079914		AA	AG	AA	AA	AA	AA	AA
AA	AG	AA	AA	AA	AG	AG	AG	AG	AA	AA
AA	AA	AA	AA	AG	AA	AA	AA	AA	AA	AA
AG	AA	AA	AA	AA	AA	AA	AA	AA	AG	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AG	AA	AG	AA	AG	AA	AA	AA	AA	AA
AG	AA	AG	AA	AA	AA	AA	AA	AG	AA	AA
AG	AA	AA	AA	AA	AG	AA	AA	AG	AA	AA
AA	AG	AG	AG	AA	AA	AA	AA	AG	AG	
GDsnp01140	11	3624461		AA	AT	AA	AA	AA	AA	AA
AA	AT	AA	AA	AA	AT	AT	AA	AT	AA	AA
AA	AA	AA	AA	AT	AA	AA	AA	AA	AA	AA
AT	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AT	AA	AT	AA	AT	AA	AA	AA	AA	AA
AT	AA	AT	AA	AA	AA	AA	AA	AT	AA	AA
AT	AA	AA	AA	AA	AT	AA	AA	AT	AA	AA
AA	AT	AT	AT	AA	AA	AT	AA	AT	AT	
GDsnp00225	11	4183094		AA	TT	AA	AT	TT	AA	AT
AT	AT	AA	TT	AA	TT	AT	AA	AT	AT	AT
AA	AT	AT	AT	TT	AT	AT	AT	AT	TT	AT
AT	TT	AT	AT	AT	AT	AA	AT	AT	AT	AT
AA	AA	AT	TT	AT	AA	AA	TT	AA	AT	AT
AA	TT	TT	AT	AT	TT	AT	AA	AA	AT	AT
AT	AT	TT	AT	AT	AT	TT	AT	AT	AT	AT
AT	AT	TT	AA	AT	TT	TT	AT	TT	AA	AA
AT	TT	TT	AT	AT	TT	AT	TT	TT	AT	
GDsnp00418	11	4580858		GG	GG	AG	GG	GG	AG	AG
-	GG	GG	GG	GG	GG	GG	AG	GG	GG	GG
AG	GG	AG	AG	AG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	AG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
AG	GG	GG	GG	AG	GG	GG	AG	GG	GG	AG
GG	GG	GG	GG	GG	GG	GG	AG	GG	GG	AG
GG	AG	GG	AG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	
GDsnp01713	11	4891695		AA	AG	AA	AG	GG	AA	AG
AA	AA	AA	AG	AA	AG	AA	AA	AA	AG	AG
AA	AG	AG	AG	AG	AG	AG	AG	AG	GG	AG
AA	GG	AG	AG	AG	AG	AA	AG	AG	AA	AA
AA	AA	AG	GG	GG	AA	AA	GG	AA	AG	AG
AA	AG	GG	AA	AG	AG	AG	AA	AA	AG	AG
AA	AG	AG	AG	AG	AG	GG	AA	AA	AG	AG
-	AG	GG	AA	AA	AG	GG	AG	AG	AA	AA
AG	AG	AG	AA	AG	GG	AG	GG	AG	AA	
GDsnp00185	11	7848372		AA	AA	AA	AA	AA	AC	AC
AA	AA	AA	AA	AA	AA	AA	AC	AA	AC	AC
AC	AA	AA	AC	AC	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AC	AA	AA	AC	AC
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AC	AA	AA	AA	AC	AA	AA	AC	AA	AA	AC
AA	AA	AA	AA	AA	AA	AA	AC	AA	AA	AC
AA	AA	AA	AC	AA	AA	AA	AA	AA	AA	AA
AA	AA	AC	AA	AA	AA	AC	AA	AA	AC	

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Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp00735	11	8120591		AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AG	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AG	AG
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
-	AA	AA	AA	AG	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
GDsnp00034	11	10059799		GG	GG	GG	GG	GG	AG	AG
AG	GG	GG	GG	GG	AG	GG	AG	GG	AG	AG
AG	GG	AG	AG	AG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	AG	GG	GG	GG	AG
GG	GG	GG	GG	GG	GG	GG	AG	GG	GG	GG
AG	GG	GG	GG	AG	GG	GG	AG	GG	GG	AG
GG	GG	GG	GG	GG	GG	GG	AG	GG	GG	AG
GG	GG	GG	AG	GG	AG	GG	GG	GG	GG	GG
GG	GG	AG	GG	GG	GG	GG	GG	GG	AG	GG
GDsnp00240	11	11169491		GG	AG	AG	GG	AA	GG	GG
GG	AG	GG	GG	GG	GG	AG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	AA	GG	GG	GG	GG
AG	GG	AA	GG	GG	AG	GG	AA	GG	GG	GG
AG	GG	GG	GG	GG	GG	GG	AA	AG	GG	GG
GG	AA	GG	GG	GG	AA	GG	GG	AG	GG	GG
AG	GG	AA	AA	GG	GG	GG	GG	AG	GG	GG
GG	AA	GG	GG	GG	GG	GG	AA	AA	AG	GG
GG	AA	GG	AG	GG	GG	GG	GG	AA	GG	GG
GDsnp00743	11	19798585		AA	AC	AC	AC	CC	AC	CC
AA	CC	AC	AC	AC	CC	AC	AC	AC	CC	AC
CC	CC	CC	AC	CC	AA	CC	AC	AC	CC	AC
AC	CC	CC	CC	CC	AC	AC	CC	AC	AC	AC
AC	CC	CC	CC	CC	AA	-	AC	AC	AC	AC
AC	CC	CC	CC	CC	CC	AC	AC	AC	AC	CC
AC	AC	CC	CC	CC	AC	AC	AC	AC	CC	AC
CC	CC	CC	AC	AA	CC	CC	AC	CC	AC	AA
AC	CC	CC	AC	CC	AC	AC	CC	CC	AC	AC
GDsnp00212	11	21829590		GG	GG	GG	AG	AA	GG	AG
AG	AA	AG	AG	AG	AG	GG	GG	GG	AG	GG
AG	AG	AG	GG	AG	GG	AA	GG	GG	AG	AG
AG	AG	AA	AA	AG	AG	GG	AA	AG	AG	GG
AG	AG	AG	AG	AG	GG	AG	AG	AG	GG	GG
GG	AG	AG	AG	AG	AG	GG	GG	AG	GG	AG
GG	AG	AG	AA	AG	GG	AG	GG	GG	AG	GG
AA	AA	AG	GG	GG	AG	AG	AG	AG	AG	GG
AG	AG	AG	GG	AA	GG	AG	AA	AG	GG	GG
GDsnp00123	11	21856103		GG	GG	GG	AG	AA	AG	AA
GG	AA	AG	AA	AG	AA	AG	AG	AG	AA	AG
AA	AA	AA	GG	AA	GG	AA	AG	AG	AA	AG
AG	AA	AA	AA	AA	AG	AG	AA	AG	AG	AG
AG	AA	AG	AA	-	GG	AA	-	AG	AG	AG
AG	AG	AA	AA	AA	AG	AG	AG	AG	AG	AA
GG	AG	AG	AA	AA	AG	AG	AG	AG	AA	AG
AA	AA	AA	AG	-	AA	AA	AG	AG	AG	GG
AG	AG	AA	AG	AA	AG	AG	AA	AG	AG	AG

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Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp01486	11	21955480		AG	GG	GG	AA	AA	AG	AA
AG	AA	AG	AG	AG	AA	AG	AG	AG	AA	AG
AA	AA	AG	GG	AA	GG	AA	AG	AG	AA	AG
AG	AA	AA	AA	AA	AG	AG	AA	AG	AG	AG
AG	AA	AG	AA	AA	GG	AA	GG	AG	AG	AG
AG	AG	AA	AA	AA	AG	AG	AG	AG	AG	AA
GG	AG	AG	AA	AA	AG	AG	AG	AG	AA	AG
AA	AA	AA	AG	GG	AA	AA	AG	AG	AG	GG
AG	AG	AA	AG	AA	AG	AG	AA	AG	AG	
GDsnp01857	11	22232357		AG	AA	AA	GG	GG	AG	GG
AG	GG	AG	AG	AG	GG	AG	AG	AG	GG	AG
GG	GG	AG	AA	GG	AA	GG	AG	AG	GG	AG
AG	GG	GG	GG	GG	AG	AG	GG	AG	AG	AG
AG	GG	AG	GG	GG	AA	GG	AA	AG	AG	AG
AG	AG	GG	GG	GG	AG	AG	AG	AG	AG	GG
AA	AG	AG	GG	GG	AG	AG	AG	AG	GG	AG
GG	GG	GG	AG	AA	GG	GG	AG	AG	AG	AA
AG	AG	GG	AG	GG	AG	AA	GG	AG	AG	
GDsnp00004	11	28781443		AG	GG	GG	AA	AA	GG	-
GG	-	GG	GG	GG	-	GG	GG	GG	-	GG
-	-	GG	GG	-	AG	-	GG	GG	AA	GG
GG	-	AA	AA	-	AG	GG	AA	AG	GG	GG
GG	-	GG	-	-	AG	-	GG	AG	GG	GG
GG	GG	AA	GG	-	GG	GG	GG	AG	GG	-
GG	GG	GG	AA	-	GG	GG	GG	-	-	GG
-	AA	-	GG	GG	GG	GG	AG	GG	AG	GG
-	GG	-	GG	-	GG	GG	-	GG	GG	
GDsnp00795	11	31482449		AG	GG	GG	AA	AA	AG	AA
GG	AG	AG	AG	AG	AA	AG	AG	AG	AA	AA
AG	AA	AG	GG	AA	AG	AG	AG	AG	AA	AG
AG	AA	AA	AA	AA	AA	AG	AA	AA	AG	AG
AG	AA	AG	AA	AA	AA	AA	AG	AG	AG	AG
AG	AG	AA	AA	AG	AG	AG	AG	AG	AG	AA
GG	AG	AG	AA	AA	AG	AG	AG	AA	AA	AG
AA	AG	AA	AG	GG	AG	AG	AG	AG	AA	AG
AA	AG	AA	AG	AA	AG	GG	AA	AG	AG	
GDsnp01465	11	33973340		GG	-	-	AG	AG	AA	AG
-	AA	AA	AG	GG	AG	GG	GG	GG	AG	AG
AA	AA	GG	-	AG	GG	-	GG	GG	AG	AA
AA	AG	AG	AG	AG	AG	GG	AG	AG	-	AA
GG	AA	GG	AG	AG	AG	AG	-	GG	AA	GG
-	GG	AG	AG	AA	AA	GG	AA	GG	AA	AG
-	GG	AA	AG	AG	GG	GG	AA	AG	AG	GG
AG	GG	AG	GG	-	GG	GG	GG	AA	AG	AA
AA	AA	AG	-	AG	AA	GG	AA	AA	GG	
GDsnp00646	11	34425216		AC	AA	AA	AC	AC	AA	AC
AA	AA	AA	AA	AA	AA	AA	AA	AA	AC	AA
AA	AA	AA	AA	AA	AC	AC	AA	AA	AC	AA
AA	AA	AC	AC	AA	AC	AA	AA	AC	AA	AA
AA	AA	AA	AA	AA	AC	AA	AA	AA	AA	AA
AA	AA	AC	AA	AA	AA	AA	AA	AA	AA	AA
AA	AC	AA	AC	AA	AC	AA	AA	AA	AA	AA
AA	AC	AC	AA	AA	AA	AA	AA	AA	AC	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	

Continued next page

Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp00029	11	34714193		CG	CC	CC	CG	CG	CC	CG
CC	CC	CC	CC	CC	CC	CC	CC	CC	CG	CC
CC	CC	CC	CC	CC	CG	CG	CC	CC	CG	CC
CC	CC	CG	CG	CC	CG	CC	CC	CG	CC	CC
CC	CC	CC	CC	CC	CG	CC	CC	CC	CG	CC
CC	CC	CG	CC	CC	CC	CC	CC	CC	CC	CC
CC	CG	CC	CG	CC	CG	CC	CC	CC	CC	CC
CC	CG	CG	CC	CC	CC	CC	CC	CC	CG	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	
GDsnp00173	12	304525		GG	GG	GG	GG	GG	GG	AG
GG	GG	AG	GG	AG	GG	GG	GG	AG	GG	GG
GG	GG	AG	GG	GG	AG	GG	GG	GG	AG	AG
AG	GG	GG	AG	GG	GG	GG	GG	AG	AG	AG
AG	AG	GG	GG	AG	AG	AA	GG	AG	GG	AG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	AG	GG	GG	AG	AG	GG	AG	GG	AG	GG
GG	GG	AG	GG	GG	GG	AG	AG	GG	GG	GG
AG	GG	GG	GG	GG	GG	AG	GG	GG	GG	
GDsnp01070	12	688053		TT	TT	TT	TT	TT	TT	TT
TT	TT	TT	TT	TT	TT	TT	TT	TT	TT	TT
TT	TT	TT	TT	TT	TT	TT	TT	TT	TT	TT
TT	TT	TT	TT	TT	TT	TT	TT	TT	-	TT
TT	TT	TT	TT	TT	TT	-	TT	TT	TT	TT
TT	TT	TT	TT	TT	TT	TT	TT	TT	TT	TT
TT	TT	TT	TT	TT	TT	TT	TT	TT	TT	TT
TT	TT	TT	TT	TT	TT	TT	TT	TT	TT	TT
TT	TT	TT	TT	TT	TT	TT	TT	TT	TT	
GDsnp00116	12	1640777		GG	GG	GG	GG	AA	GG	AA
AA	GG	AG	AG	AG	AG	AG	GG	AG	AG	AG
AG	AG	AG	AG	AG	AG	AG	AA	AA	AA	AA
AG	AG	AA	AA	AG	AA	GG	AA	AG	AA	GG
AG	AA	AG	AA	AA	AG	AG	AG	AG	AG	AA
AG	GG	AA	GG	AG	AG	AG	AG	AG	GG	AG
AG	AA	GG	AG	AG	AG	AG	GG	GG	AA	AG
GG	AG	AG	AG	GG	GG	AA	AG	AG	AA	AA
AG	GG	AG	GG	GG	AG	AG	AG	GG	AG	
GDsnp01690	12	3897839		AG	GG	GG	GG	AG	GG	AG
GG	AG	AG	GG	AG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	AG	AG	GG	GG	AG	AG
AG	GG	GG	AG	GG	GG	GG	GG	AG	AG	GG
AG	AG	GG	GG	AG	AG	AG	GG	AG	GG	AG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	AG	GG	GG	AG	AG	GG	AG	GG	AG	GG
GG	GG	AG	GG	GG	GG	AG	AG	GG	GG	GG
AG	GG	GG	-	GG	GG	AG	GG	GG	GG	
GDsnp02537	12	5280715		GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	CG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	CG
GG	GG	GG	GG	GG	GG	-	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	

Continued next page

Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)				Individuals		
GDsnp00272	12	6266912		TT	TT	TT	TT	AT	TT	AT
AT	TT	TT	AT	TT	AT	AT	TT	AT	AT	TT
TT	AT	AT	AT	AT	AT	AT	AT	AT	AT	AT
TT	TT	AA	AT	TT	AT	TT	AA	TT	AT	TT
TT	TT	AT	AT	AT	AT	TT	AT	TT	AT	AT
AT	TT	AT	TT	AT	AT	TT	AT	TT	TT	AT
AT	AT	AT	TT	TT	TT	AT	TT	TT	AT	AT
TT	AT	AT	AT	AT	TT	AT	TT	AT	AA	AA
TT	TT	TT	TT	TT	AT	TT	AT	TT	AT	
GDsnp02857	12	7284234		GG	GG	GG	GG	AG	GG	AG
-	GG	GG	AG	GG	AG	AG	GG	AG	AG	GG
GG	AG	AG	AG	GG	AG	AG	AG	AG	AG	AG
GG	GG	AA	AG	GG	GG	GG	AA	GG	AA	GG
GG	GG	AG	AG	AG	AG	GG	AG	GG	AG	AG
AG	GG	AG	GG	AG	AG	GG	AG	GG	GG	AG
AG	AG	AG	GG	GG	GG	AG	-	GG	AG	AG
GG	AG	AG	AG	-	GG	AG	GG	AG	AA	AA
GG	GG	GG	GG	GG	AG	GG	AG	GG	AG	
GDsnp02502	12	10923118		GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	AG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	AG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GDsnp00318	12	11958909		CC	CC	CC	CC	AC	CC	AC
AC	AC	CC	AC	CC	AC	AC	CC	AC	AC	CC
CC	AC	AC	AC	CC	AC	AC	AC	AC	AC	AC
CC	CC	AA	AC	CC	CC	CC	AA	CC	AC	CC
CC	CC	AC	AC	AC	AC	AC	AC	CC	AC	AC
AC	CC	AC	CC	AC	AC	CC	AC	CC	AC	AC
AC	AC	AC	CC	CC	CC	AC	AC	CC	AC	AC
CC	AC	AC	AC	AC	CC	AC	CC	AC	AC	AA
CC	AC	CC	CC	CC	AC	AC	AC	CC	AC	
GDsnp02326	12	16794961		AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AT	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AT
AA	AA	AA	AA	AA	AA	AA	AT	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
GDsnp01029	12	17824232		AT	AA	AA	AT	AT	AA	AT
AT	AA	AT	AA	AT	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AT	AT	AA	AT
AT	AT	AA	AT	AA	AA	AA	AA	AA	AA	AA
AT	AT	AA	AA	AT	AT	AT	AA	AT	AA	AT
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AT	AA	AA	AA	AA	AT	AA
AA	AA	AT	AA	AA	AA	AT	AT	AA	AA	AT
AT	AA	AA	AA	AA	AT	AA	AA	AA	AA	

Continued next page

Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp00193	12	18610313		GG	AG	GG	GG	AG	GG	AG
GG	AA	GG	AA	GG	AA	AG	AG	AA	AG	AG
AG	AG	AA	AG	AG	AG	AA	AG	AG	AA	AG
GG	GG	AA	AG	AG	AG	AA	AA	AA	AG	AG
GG	GG	AG	AA	AG	AG	AG	-	GG	AG	AG
AA	AG	AA	AG	AG	GG	AG	AA	AG	AA	AG
AG	AA	AA	AA	GG	AG	AG	AG	AG	AG	AG
AG	GG	AG	AG	AA	AG	AG	GG	AA	AG	AG
GG	AG	GG	AG	AG	GG	AG	AG	AG	AG	
GDsnp01769	12	24505274		GG	-	GG	GG	AG	GG	AG
GG	AG	GG	AG	GG	AA	-	GG	AG	AA	-
-	GG	-	-	-	GG	AG	-	-	AA	AG
GG	GG	AA	AG	-	-	AA	AA	AA	GG	GG
GG	GG	-	-	-	AG	AA	AA	-	GG	AA
-	-	AA	GG	-	GG	-	AA	-	AA	-
-	AA	AA	AA	GG	-	-	-	GG	-	-
-	GG	-	-	AG	AA	-	-	AA	-	AG
GG	-	-	-	-	GG	AG	GG	-	-	
GDsnp00747	12	24953914		AT	AT	AA	AT	TT	AA	TT
AT	AT	AT	AT	AT	TT	AT	AA	AT	TT	AT
AT	AA	TT	AT	AT	AA	AT	AT	AT	TT	TT
AT	AA	TT	TT	AT	AT	TT	TT	TT	AT	AT
AT	AA	AT	AT	AT	TT	AT	AT	AT	AA	TT
AT	AT	TT	AA	AT	AA	AT	TT	AT	TT	AT
AT	TT	TT	TT	AA	AT	AT	AT	AA	AT	AT
AT	AA	AT	AT	AT	TT	AT	AT	TT	AT	TT
AT	AT	AT	AT	AT	AT	TT	AA	AT	AT	
GDsnp01426	12	26511747		AG	AG	GG	AG	AA	AG	AG
AG	AA	AG	AG	AG	AA	AG	GG	GG	AA	GG
AG	AG	AA	AG	AG	AG	AA	AG	AG	AA	AA
AG	GG	AA	AA	AG	AG	AG	AA	AA	AG	GG
AG	AG	AG	AG	AG	AA	-	AG	AG	AG	AA
AG	AA	AA	AG	AG	GG	AG	AA	AG	AA	AG
AG	AA	AA	AA	GG	AG	AG	AG	GG	AG	AG
AG	AG	AG	GG	AA	AA	AG	AG	AA	AG	AA
AG	AG	AG	AG	AG	AG	AA	AG	AG	AG	
GDsnp00762	12	27587472		GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	AG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GDsnp00391	12	27698739		GG	AG	GG	GG	AA	GG	AG
-	AA	GG	AA	GG	AA	AG	AG	AG	AA	GG
AG	AG	AG	AG	AG	AG	AA	AG	AG	AA	AG
GG	GG	AA	AA	AG	-	AG	AG	AA	AG	GG
AG	AG	AG	AG	AA	AG	-	AG	AA	AG	AA
AG	AA	AA	AG	GG	GG	AG	AA	AG	AA	AG
AG	AA	AA	AA	GG	AG	GG	AA	GG	AG	AG
AG	GG	AG	GG	AA	AA	AG	AG	AA	AG	AG
GG	AG	AG	-	AG	GG	AA	AG	AG	GG	

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Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp01051	12	28635275		TT	TT	TT	TT	TT	TT	TT
TT	TT	TT	TT	TT	TT	TT	TT	TT	TT	TT
TT	TT	TT	TT	TT	TT	TT	TT	TT	TT	TT
TT	TT	TT	TT	TT	TT	TT	TT	TT	TT	TT
TT	TT	TT	TT	TT	TT	TT	-	TT	TT	TT
TT	TT	TT	TT	TT	TT	TT	TT	TT	TT	TT
TT	TT	TT	TT	TT	TT	TT	TT	TT	TT	TT
-	TT	TT	TT	TT	TT	TT	TT	TT	TT	TT
TT	TT	TT	TT	TT	TT	TT	TT	TT	TT	TT
GDsnp00334	12	29260634		AG	AA	AA	AG	AA	AG	AA
AA	AA	AG	AA	AG	AA	AA	AA	AA	AA	AA
AA	AG	AG	AA	AA	AG	AG	AA	AA	AA	AG
AG	AA	AA	AA	AA	AA	AA	AA	AA	AG	AA
AA	AG	AA	AA	AA	AG	-	AA	AA	AG	AA
AA	AA	AA	AA	AA	AA	AA	AG	AA	AG	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AG	AA	AA	AA	AA	AA	AA	AA	AA	AG
AG	AA	AA	AA	AA	AG	AG	AG	AA	AA	AA
GDsnp01665	12	30578149		AG	AG	AG	AG	AA	AG	AA
GG	AG	AG	AG	AG	AA	AA	AG	AG	AA	GG
AG	GG	AG	AA	AG	GG	AG	AG	AG	AA	AA
GG	AG	AA	AA	AG	AG	AG	AG	AA	GG	GG
AG	AG	AG	AG	AA	AG	AG	GG	AA	GG	AG
AG	AA	AA	GG	GG	GG	AG	AG	AG	AG	AG
AG	AA	AA	AA	AG	AG	GG	AG	GG	AG	AG
AA	AG	AG	GG	AG	AA	AG	AG	AG	AG	AA
AG	AG	AG	AA	AA	AG	AG	GG	AA	GG	AA
GDsnp00915	12	31276432		AG	AA	AA	AG	GG	AG	GG
AA	AG	AG	AG	AG	AG	AG	AG	AG	GG	AA
AA	AA	AG	AG	AA	AA	AG	AG	AG	AG	GG
AA	AG	GG	GG	AA	AA	AG	AG	AG	AA	AA
GG	AG	AG	AG	AG	GG	AG	AA	AG	AA	AA
AA	AG	AG	AA	AA	AA	AA	AG	AG	AG	AG
AG	GG	AG	AG	AG	AA	AA	GG	AA	AG	AA
GG	AG	AG	AA	GG	-	AA	AG	AG	AG	GG
AG	AG	AA	AG	GG	AG	AG	AA	AG	AA	AA
GDsnp00296	12	31353204		AA	AT	AT	AA	AA	AA	AA
AT	AT	AA	AA	AA	AT	AT	AA	AA	AA	AA
AT	AT	AT	AT	AT	AT	AT	AA	AA	AT	AA
AA	AA	AA	AA	AT	AT	AA	AA	AT	AT	AA
AA	AT	AA	AA	AT	AA	AA	AT	AT	AT	AT
AT	AT	AT	AA	AA	AA	AT	AT	AT	AT	AA
AA	AA	AT	AT	AA	AT	AA	AA	AA	AA	AT
AA	AA	AT	AA	AA	AT	AT	AA	AA	AA	AA
AA	AA	AT	AT	AA	AA	AT	AT	AT	AA	AA
GDsnp01190	13	131962		AA	AA	AA	AA	AA	AA	AA
AA	AG	AA	AA	AA	AA	AA	AA	AG	AA	AA
AA	AA	AA	AA	AA	AA	AG	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA

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Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp01655	13	365863		AA	AA	AA	AA	AA	AA	AA
AA	AT	AA	AA	AA	AA	AA	AA	AT	AA	AA
AA	AA	AA	AA	AA	AA	AT	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
GDsnp01917	13	623002		CC	CC	CC	CC	CC	CC	CC
CC	AC	CC	CC	CC	CC	CC	CC	AC	CC	CC
CC	CC	CC	CC	CC	CC	AC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
GDsnp00060	13	874638		AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AT	AA	AA
AA	AA	AA	AA	AA	AA	AT	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
GDsnp00184	13	1600799		AA	TT	AT	AA	AT	AT	AA
TT	AT	AA	AA	AA	AT	TT	AT	AT	AT	AA
AT	AT	AA	AT	TT	AA	AT	AT	AT	TT	AA
AT	TT	TT	AT	TT	AT	AA	AT	AA	AA	AT
AT	AA	AT	AT	AT	AA	TT	AT	AA	AT	TT
AT	AA	AT	TT	AA	AT	AA	AT	AT	AA	AT
TT	AT	AA	AT	AA	AT	AA	TT	AT	TT	AT
AT	AT	TT	AA	AT	AT	AT	TT	AT	AT	AA
AT	AA	AT	AT	AT	AA	AT	TT	TT	AA	
GDsnp00098	13	2347048		GG	AA	AG	GG	AG	AG	GG
AA	GG	GG	GG	GG	AG	AG	AG	AG	AG	GG
AG	AG	GG	AG	AA	GG	GG	GG	GG	AG	GG
AG	AG	AA	AG	AG	GG	GG	AG	GG	AG	AG
AG	GG	AG	AG	AG	GG	AG	AG	GG	AG	AG
AG	GG	GG	AA	GG	AG	GG	AG	GG	GG	AG
AA	AG	AG	AG	GG	AG	GG	AA	AG	AG	AG
AG	AG	AG	GG	AG	AG	GG	AA	AG	AG	GG
AG	GG	AG	GG	AG	GG	AG	AA	AA	GG	
GDsnp00110	13	2475410		CC	GG	CG	CC	CG	CG	CC
GG	CC	CC	CC	CC	CG	CG	CG	CG	CG	CC
CG	CG	CC	CG	GG	CC	CC	CC	CC	CG	CC
CG	CG	GG	CG	CG	CC	CC	CG	CC	CG	CG
CG	CC	CG	CG	CG	CC	-	CG	CC	CG	CG
CG	CC	CC	GG	CC	CG	CC	CG	CC	CC	CG
GG	CG	CG	CG	CC	CG	CC	GG	CG	CG	CG
CG	CG	CG	CC	CG	CG	CC	GG	CG	CG	CC
CG	CC	CG	CC	CG	CC	CG	GG	GG	CC	

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Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp00195	13	2829326		CC	AA	AC	CC	AC	AC	CC
AA	AC	CC	CC	CC	AC	AC	AC	AC	AC	CC
AC	AC	CC	AC	AA	CC	CC	CC	CC	AC	CC
AC	AC	AA	AC	AC	CC	CC	AC	CC	AC	AC
AC	CC	AC	AC	AC	CC	AC	AC	CC	AC	AC
AC	CC	CC	AA	CC	AC	CC	AC	CC	CC	AC
AA	AC	AC	AC	CC	AC	CC	AA	AC	AC	AC
AC	AC	AC	CC	AA	AC	CC	AA	AC	AC	CC
AC	CC	AC	CC	AC	CC	AC	AA	AA	CC	
GDsnp00922	13	3590826		AA	AA	AA	AA	AG	AA	AA
AA	AA	AG	AG	AG	AA	AA	AA	AA	AA	AG
AA	AG	AG	AA	AA	AG	AA	AG	AG	AA	AG
AA	AG	AA	AA	AG	AG	AA	AA	AA	AA	AA
AG	AG	AG	AA	AA	AG	AG	AA	AA	AG	AG
AA	AA	AG	AA	AA	AA	AA	AA	AG	AG	AA
AA	AA	AA	AA	AA	AA	AG	AA	AA	AG	AA
AG	AA	AG	AA	AA	AA	AG	AA	AA	AA	AA
AG	AA	AA	AA	AA	AG	AA	AA	AA	AA	
GDsnp00531	13	7368313		TT	TT	TT	TT	TT	TT	TT
AT	TT	TT	AT	TT	TT	TT	TT	AT	TT	TT
TT	TT	AT	TT	TT	TT	AT	TT	TT	TT	TT
AT	TT	TT	TT	TT	TT	TT	TT	TT	AT	AT
TT	TT	TT	TT	TT	TT	TT	TT	TT	TT	TT
TT	TT	TT	TT	TT	TT	TT	TT	TT	TT	TT
TT	TT	TT	TT	TT	TT	AT	TT	TT	TT	TT
AT	TT	TT	TT	TT	TT	TT	TT	TT	TT	TT
TT	TT	TT	TT	AT	TT	TT	TT	TT	TT	
GDsnp00140	13	10411070		CC	CC	CC	CC	CC	CC	CC
AC	CC	AC	CC	CC	CC	CC	CC	AC	CC	CC
CC	CC	AC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	AC	AC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	
GDsnp02002	13	11871375		TT	TT	TT	TT	TT	TT	TT
TT	TT	TT	AT	TT	TT	AT	AT	AT	TT	AT
TT	AT	AT	TT	AT	AT	TT	AT	AT	TT	AT
AT	AT	TT	TT	AT	AT	AT	AT	TT	AT	AT
TT	AT	TT	AT	AT	AT	AT	TT	TT	AT	AT
TT	AT	AT	AT	TT	TT	TT	TT	AT	AT	TT
TT	AT	TT	TT	TT	TT	AT	AT	AT	AT	TT
AT	TT	AT	TT	AT	AT	AT	TT	AT	AT	AT
AT	AT	AT	TT	AT	AT	TT	AT	TT	AT	
GDsnp00340	13	13978602		AA	GG	AA	AA	AG	AG	AG
GG	AA	AA	GG	AA	AG	AA	AG	AG	GG	AA
AG	AG	AA	AG	AG	AA	AG	AA	AA	AG	AA
AG	AA	GG	AA	AG	AA	AA	AG	AA	AG	AA
AG	AA	AG	AA	AG	AG	AG	AG	AA	AA	AG
AG	AA	AA	AG	AG	GG	AA	AG	AA	AG	AG
AG	AA	AG	AG	AA	AG	AA	GG	AG	AG	GG
AG	AG	AG	GG	AG	AG	AA	AG	AG	AA	AA
AG	AA	AG	AG	AA	AA	AG	AA	GG	AA	

Continued next page

Supplemental Table 2. Continued.

SNP name		Linkage group		Physical location (bp)		Individuals				
GDsnp00890	13	15261515		AA	AA	AC	AA	AA	AA	CC
AA	AA	AA	AA	AA	AA	AC	CC	CC	AA	AC
AA	CC	AA	AA	CC	AC	AA	AC	AC	AA	AC
CC	AC	CC	AA	CC	AC	AC	CC	AA	AA	AA
AA	AC	AA	AC	CC	CC	CC	AA	AA	AC	CC
AA	AC	AC	AA	AA	AA	AA	AA	AC	CC	AA
AA	AC	AA	AA	AA	AA	AC	AA	CC	AC	AA
CC	AA	CC	AA	AA	AA	AC	AA	CC	AC	CC
AC	AC	CC	AA	AC	AC	AA	AC	AA	AA	
GDsnp01844	13	16496766		AG	AA	AG	GG	AG	AG	AA
AA	GG	AG	AA	GG	AA	AG	AA	AA	AA	AG
AG	AA	AG	AG	AA	AG	AG	AG	AG	AG	AG
AA	AG	AA	AG	AA	AG	AG	AA	GG	AA	GG
AG	AG	AG	AG	AA	AA	AA	-	GG	AG	AG
AG	AG	AG	AA	AG	AA	GG	AG	AG	AA	AG
AG	AG	AG	AG	GG	AG	AG	AA	AA	AG	AA
AG	AG	AA	AA	AG	AG	AG	AG	AA	AG	AA
AG	AG	AA	AG	AG	AG	AG	AG	AA	AG	
GDsnp01334	13	17723250		AG	AG	AG	GG	AG	AG	AA
AA	GG	AG	AA	GG	AG	AG	AA	AA	AA	AG
GG	AG	GG	GG	AA	GG	AG	GG	GG	AG	GG
AA	GG	AA	AG	AG	GG	AG	AG	GG	AA	AG
GG	GG	AG	GG	AG	AG	-	-	GG	GG	GG
GG	GG	GG	AG	GG	AG	GG	AA	GG	AG	GG
GG	GG	GG	AG	GG	AG	AG	AG	AG	GG	AG
AG	AA	AG	AG	AG	GG	GG	AG	AA	GG	AA
GG	AG	AA	GG	AA	GG	AG	GG	AG	GG	
GDsnp00532	13	18126371		GG	GG	AG	GG	GG	GG	AG
AG	GG	AG	GG	GG	GG	AG	AG	AG	GG	AG
GG	GG	GG	AG	AG	GG	AG	GG	GG	GG	GG
AG	GG	AG	GG	GG	GG	AG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	AG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	AG	AG	GG	GG	GG
AG	AG	GG	GG	GG	GG	GG	GG	GG	GG	AG
GG	AG	AG	GG	AG	GG	GG	GG	GG	GG	
GDsnp00770	13	20060836		CG	CC	CG	CG	GG	CG	CC
CC	GG	CG	CC	GG	CG	CG	CC	CG	CC	CG
CG	CC	GG	CG	CC	CG	CG	CG	CG	CC	CG
CC	CG	CC	CG	CC	CG	CG	CC	CG	CC	CG
GG	CC	CC	CG	CC	CC	CC	CC	CG	CG	CG
CG	CG	CG	CG	CG	CC	CG	CC	CG	CC	CG
CG	CG	CG	CC	CG	CC	CG	CG	CC	CG	CC
CG	CC	CG	CC	CG	CG	CG	CG	CG	CG	CC
CG	CG	CC	CG	CC	CG	CC	CG	CG	CG	
GDsnp00744	13	20669641		AT	AA	AT	AT	AT	AT	AA
AA	TT	AT	AA	TT	AT	AT	AA	AA	AA	AT
AT	AA	AT	AT	AA	AT	AT	AT	AT	AT	AT
AA	AT	AA	AT	AA	AT	AT	AA	TT	AA	AT
TT	AT	AA	AT	AA	AA	AA	AA	AT	AT	TT
AT	AT	AT	AA	AT	AA	TT	AA	TT	AA	AT
AT	AT	AT	AT	TT	AT	AT	AT	AA	TT	AA
AT	AA	AT	AA	AT	AT	AT	AT	AA	AT	AA
AT	AT	AA	-	AA	AT	AT	AT	AA	AT	

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Supplemental Table 2. Continued.

SNP name		Linkage group		Physical location (bp)		Individuals				
GDsnp00164	13	22891166		AG	GG	AG	AG	AG	AG	GG
AG	AA	AG	GG	AA	AG	AG	GG	GG	GG	AG
AG	GG	AG	AG	GG	AG	AG	AG	AG	AG	AG
GG	AG	GG	AG	GG	AG	AG	GG	AA	GG	AG
AA	AG	GG	AG	GG	GG	AG	GG	AG	AG	AA
AG	AG	AG	GG	AG	GG	AA	GG	AA	GG	AG
AG	AG	AG	AG	AA	AG	AG	AG	GG	AA	GG
AG	GG	AG	GG	AG	AG	AG	AG	GG	AG	GG
AG	AG	GG	AG	GG	AG	AG	AG	GG	AG	
GDsnp02452	13	26647908		AG	AG	AA	AG	AA	AG	AG
AG	AA	AA	GG	AA	AA	AA	AG	GG	GG	AA
AA	AG	AG	AA	AG	AA	AA	AA	AA	AG	AA
AG	AA	AG	AG	AG	AA	AA	AG	AA	AG	AG
AA	AG	AG	AA	AG	AG	-	-	AA	AA	AA
AA	AA	AA	GG	AA	AG	AA	GG	AA	AG	AA
AA	AA	AA	AG	AA	AG	AA	AA	AG	AA	AG
AA	AG	AA	AG	AG	AA	AA	AG	AG	AA	AG
AA	AA	AG	AA	AG	AA	AG	AA	AG	AA	
GDsnp00350	13	27841734		AG	AG	AA	AG	AA	AG	AG
AG	AA	AA	GG	AA	AA	AA	AG	GG	GG	AA
AA	AG	AA	AA	AG	AA	AA	AA	AA	AG	AA
AG	AA	AG	AG	AG	AA	AA	AG	AA	AG	AG
AA	AG	AG	AA	AG	AG	AG	-	AA	AA	AA
AA	AA	AA	AG	AA	AG	AA	GG	AA	AG	AA
AA	AA	AA	AG	AA	AG	AG	AA	AG	AA	AG
AA	AG	AA	AG	AG	AA	AA	AG	AA	AA	AG
AA	AA	AG	AA	AG	AA	GG	AA	AA	AA	
GDsnp00748	13	32753515		TT	AT	AT	TT	TT	TT	AT
TT	TT	AT	TT	TT	AT	AT	AT	TT	TT	AT
AT	AT	TT	AT	AT	AT	TT	AT	AT	AT	AT
AT	AT	AT	TT	AT	AT	AT	AT	AT	TT	AT
TT	AT	AT	AT	AT	AT	AT	AT	AT	AT	AT
AT	AT	AT	TT	AT	AT	AT	TT	AT	AT	AT
AT	AT	AT	AT	AT	AT	TT	TT	AT	AT	AT
AT	AT	AT	AT	TT	AT	AT	TT	AT	AT	AT
AT	AT	AT	AT	AT	AT	AT	AT	AT	AT	
GDsnp01199	13	33378164		AC	AA	AC	AC	CC	AC	AA
AC	CC	AC	AA	CC	AC	AC	AA	AC	AA	AC
AC	AA	AC	AC	AA	AC	CC	AC	AC	AA	AC
AA	AC	AA	AC	AA	AC	AC	AA	AC	AA	AC
CC	AA	AA	AC	AA	AA	AA	AA	AC	AC	AC
AC	AC	AC	AA	AC	AA	AC	AA	AC	AA	AC
AC	AC	AC	AA	AC	AA	AC	CC	AA	AC	AA
AC	AA	AC	AA	AC	AC	AC	AC	AC	AC	AA
AC	AC	AA	AC	AA	AC	AA	AC	AC	AC	
GDsnp01888	14	232465		AA	AA	AA	AA	AA	AA	AA
AA	AG	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AG	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	

Continued next page

Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp00207	14	901694	AA	AG	AA	GG	AA	GG	AG	AG
AG	AA	AG	AA	GG	GG	AG	AG	GG	AA	AG
AG	AG	GG	GG	AA	AA	AA	AA	AA	GG	AA
AG	AG	AG	AA	AG	AG	GG	AG	AG	AG	AA
GG	AG	GG	GG	AA	AG	GG	AG	GG	AG	GG
GG	AA	GG	AG	AG	AA	AG	AG	GG	AA	AA
AA	AG	AG	AA	GG	AG	GG	AA	GG	AG	GG
GG	AA	AA	GG	AA	AG	AG	GG	AG	AA	AA
AG	AG	GG	AG	AA	AG	AA	AG	AG	AA	
GDsnp01846	14	1922227	AA	AA	AA	AA	AA	AA	AA	AA
AA	AC	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AC	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
GDsnp00248	14	3975756	CC	AC	CC	AA	CC	AA	AC	AC
AC	CC	AC	CC	AA	AA	AC	AC	AA	CC	AC
AC	AC	AA	AA	CC	CC	CC	CC	CC	AA	CC
AC	AC	AC	CC	AC	AC	AA	AC	AC	AA	AC
AA	AC	AA	AA	CC	AC	AA	AC	AA	AC	AC
AA	CC	AA	AA	AC	CC	AC	AC	AA	CC	CC
CC	AC	CC	CC	AA	AC	AA	CC	AA	CC	AA
-	CC	CC	AA	AC	AC	AC	AA	AC	CC	CC
AC	AC	AC	-	CC	AC	CC	AC	AC	CC	
GDsnp02706	14	7488242	AG	AG	AG	GG	AG	GG	AG	AG
GG	AA	GG	AG	GG	GG	GG	GG	GG	AA	AG
GG	GG	GG	GG	AG	AG	AA	AA	AA	AG	AG
AG	GG	AG	AG	AG	AG	GG	AG	AG	GG	AG
GG	GG	AG	GG	AG	GG	GG	-	GG	GG	AG
GG	AG	GG	GG	GG	GG	AG	GG	GG	AG	GG
AG	GG	AG	AA	GG	AG	GG	AG	GG	AA	GG
GG	AA	AA	GG	AA	AG	AG	GG	AG	AG	AG
GG	GG	GG	GG	AA	GG	AG	AG	AG	AG	
GDsnp02543	14	12104892	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	-	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	-
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	-	AA	AA	AA	AA	AA	AA	
GDsnp00165	14	16134804	AC	CC	AC	CC	CC	CC	CC	CC
AC	CC	CC	AC	CC	CC	AC	CC	AC	CC	CC
AC	CC	AC	CC	AC	AC	CC	CC	CC	CC	AC
AC	CC	CC	CC	CC	CC	CC	CC	CC	AC	-
CC	CC	CC	CC	CC	AC	CC	AC	CC	AC	CC
CC	AC	CC	AC	AC	AC	CC	AC	CC	AC	AC
AC	CC	AC	CC	CC	CC	CC	AC	AC	CC	CC
CC	CC	CC	CC	AC	CC	CC	CC	CC	CC	AC
CC	AC	AC	AC	CC	CC	CC	CC	CC	AC	

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Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp00062	14	19851050		AA	AA	AA	AA	AA	AA	AA
AA	AA	AC	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AC	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AC
AA	AA	AA	AA	AA	AA	AA	AC	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AC	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AC	AA	AA	AA	AA
GDsnp01590	14	20326328		CC	CG	CC	CC	CG	CG	CG
-	CC	CG	CC	CC	CG	CC	GG	-	CG	CG
CG	GG	CG	GG	CC	CC	CC	CC	CC	CG	CG
CC	CG	CG	CC	CG	GG	GG	CC	CG	-	CC
CG	GG	CC	GG	CG	CG	GG	CC	CG	CG	CG
GG	CC	GG	-	CG	CG	GG	CG	GG	CC	CG
CG	CG	CC	CG	GG	CG	GG	CG	CG	CG	CG
GG	CG	CG	GG	CC	CG	CG	CG	CC	CC	CC
GG	GG	CG	CC	CC	GG	CG	CG	CG	CC	CC
GDsnp00211	14	22601186		AG	AG	GG	AG	AA	AG	AG
AA	AG	AG	AG	AG	AG	GG	AA	AA	AG	AG
AG	AA	AG	AA	GG	AG	AG	GG	GG	AG	AA
AG	AG	AG	AG	AG	AA	AA	AG	AG	AA	AG
AG	AA	AG	AA	AA	AA	AA	GG	AG	AA	AG
AA	GG	AA	AA	AG	AG	AA	AA	AA	AG	AG
AG	AA	GG	AG	AA	AG	AA	AA	AG	AG	AG
AA	AG	AG	AA	AG	AA	AG	AA	GG	AG	AG
AA	AA	GG	GG	GG	AA	AA	AG	AG	GG	AG
GDsnp00522	14	23161054		GG	AG	GG	GG	AG	AG	AG
AA	AA	AG	GG	GG	AG	GG	AA	AA	AG	AG
AG	AA	AG	AA	GG	GG	AG	GG	GG	AG	AA
AG	AG	AG	GG	AG	AA	AA	GG	AG	AA	AG
AG	AA	GG	AA	AA	GG	AA	GG	AG	AG	AG
AA	GG	AA	AA	AG	AG	AA	AG	AA	GG	AG
AG	AG	GG	AG	AA	AG	AG	AG	AG	-	AG
AG	AG	AG	AA	GG	AA	AG	AG	GG	AG	GG
AG	AA	GG	GG	GG	AA	AA	AG	AG	GG	AG
GDsnp00048	14	24445979		AA	AG	AA	AA	AG	AG	AG
AG	GG	AG	AA	AA	AG	AA	GG	GG	AG	AG
AA	GG	AG	GG	AA	AA	AG	AA	AA	AG	GG
AG	AG	AG	AA	AG	AG	GG	AA	GG	GG	AG
AG	GG	AA	GG	GG	AA	GG	AA	AG	AG	AG
GG	AA	AG	GG	AG	AG	GG	AG	GG	AA	AG
AG	AG	AA	AG	GG	AG	AG	AG	AG	AG	AG
AG	AG	AG	GG	AG	GG	AG	AG	AA	AG	AA
AG	GG	AA	AA	AA	GG	GG	AG	AG	AA	AG
GDsnp00948	14	24931458		AA	AG	AA	AA	AG	AG	AG
GG	GG	AG	AA	AA	AG	AA	GG	GG	AG	AG
AA	GG	AG	GG	AA	AA	AG	AA	AA	AG	GG
AG	AG	AG	AA	GG	AG	GG	AA	GG	AG	AG
AG	GG	AA	GG	GG	AA	GG	AG	AG	AG	AG
GG	AA	AG	GG	AG	AG	GG	AG	GG	AA	AG
AG	AG	AA	AG	GG	AG	AG	AG	AG	AG	AG
AG	AG	AG	GG	AG	GG	AG	AG	AA	AG	AA
AG	GG	AA	AA	AA	GG	GG	AG	AG	AA	AG

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Supplemental Table 2. Continued.

SNP name		Linkage group		Physical location (bp)		Individuals				
GDsnp00171	14	25220544		GG	GG	GG	GG	AG	AG	GG
AG	AA	AG	GG	GG	AG	GG	AA	AA	AG	AG
GG	AA	AG	AA	GG	GG	AG	GG	GG	AG	AA
AG	AG	AG	GG	AA	AG	AA	GG	AA	AG	AG
AG	AA	GG	AA	AA	GG	AA	GG	AG	AG	AG
AA	GG	AG	AA	AG	AG	AA	AG	AA	GG	AG
AG	AG	GG	AG	AA	AG	AG	AG	AG	AG	AG
AG	AG	AG	AA	GG	AA	AG	AG	GG	AG	GG
AG	AA	GG	GG	GG	AA	AA	AG	AG	GG	
GDsnp00213	14	27058274		GG	GG	GG	GG	GG	GG	GG
AG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GDsnp00201	14	27321459		AA	AA	AA	AA	AG	AG	AA
AG	AG	AA	AA	AA	AG	AA	GG	AA	AG	AG
AA	GG	AG	GG	AA	AA	AA	AA	AA	AG	GG
AG	AG	AG	AA	AG	AG	GG	AA	GG	AG	AG
AA	GG	AA	AG	GG	AA	GG	AA	AG	AG	AG
GG	AA	AG	AG	AA	AG	GG	AG	AG	AA	AG
AG	AG	AA	AG	GG	AA	AG	AG	AA	AG	AG
AG	AG	AG	GG	AA	GG	AA	AG	AA	AG	AA
AG	AG	AA	AA	AA	AG	GG	AG	GG	AG	
GDsnp00261	14	29135091		GG	GG	GG	CG	CG	CG	GG
CG	CG	GG	GG	GG	CG	GG	CG	CG	CC	CC
GG	CC	GG	CG	GG	CG	GG	CG	CG	CG	CC
CG	CG	CG	GG	CG	CG	CC	GG	CC	CC	CG
GG	CC	-	CG	CC	CG	CC	-	CG	CC	CG
CG	GG	CG	CG	GG	CG	CC	CC	CG	GG	CC
CG	CG	GG	CG	CC	GG	CG	CG	GG	CG	CG
GG	CC	CG	CC	CG	CG	GG	CG	GG	CG	CG
CC	CG	GG	GG	GG	CG	CC	CG	CC	CG	
GDsnp00349	15	701121		GG	GG	GG	GG	GG	GG	GG
GG	AG	GG	GG	GG	GG	GG	GG	AG	GG	GG
GG	GG	GG	GG	GG	GG	AG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	AG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	-	GG	GG	GG	GG	GG	GG	
GDsnp01131	15	1033847		AA	AG	AG	AA	AA	AG	AA
AG	AG	AA	AA	AG	AA	AG	AG	AA	AG	AA
AA	AA	AG	AA	AA	AA	AG	AG	AG	AG	AA
AA	AG	AG	AA	AG	AG	AA	AG	AG	AA	AA
AG	AA	AA	AG	AG	AG	AG	AA	AG	AG	AG
AG	AG	AG	AA	AG	AG	AG	AG	AG	AG	AA
AG	AA	AG	AG	AG	AG	AA	AG	AG	AG	AG
AA	AG	AG	AG	AA	AG	AG	AG	AG	AG	AA
AA	AG	AA	AG	AA	AG	AA	AA	AA	AG	

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Supplemental Table 2. Continued.

SNP name		Linkage group		Physical location (bp)		Individuals				
GDsnp01009	15	1112703		AG	AG	AG	AG	AG	AG	GG
AG	AG	AG	GG	AA	AG	AA	AA	AG	AG	GG
AG	AA	AG	GG	GG	AG	AG	AG	AG	AG	AG
AA	AG	AG	AA	AG	AA	AG	AA	AA	AG	GG
AG	AG	AA	AG	AG	AG	AA	AG	AA	AG	AA
AG	AG	AG	AG	AG	AG	AG	AA	AG	AG	GG
AG	AA	AG	AA	AA	AG	GG	AA	AA	AA	AG
AG	AA	AG	AG	GG	AG	AG	AG	AG	AG	AG
AA	AA	GG	AA	AG	AA	AG	AG	AG	AA	
GDsnp01634	15	2111104		CG	CG	CC	CG	CG	CG	CC
CG	CG	CG	CC	GG	CG	GG	GG	CG	CG	CC
CG	GG	CG	CC	CC	CG	CG	CG	CG	CG	CG
GG	CG	GG	GG	CG	GG	CG	GG	GG	CG	CC
CG	CG	GG	CG	CG	CG	GG	CG	GG	CG	GG
CG	CG	CG	CG	CG	CG	CG	GG	CG	CG	CC
CG	GG	CG	GG	GG	CG	CC	GG	GG	GG	CG
CG	GG	CG	CG	CC	GG	CG	CG	CG	CG	CG
CG	GG	CC	GG	CG	GG	CG	CG	CG	GG	
GDsnp00115	15	2652900		AA	AG	AA	AA	AA	AG	AA
AG	AG	AA	AA	AG	AA	AG	AG	AA	AG	AA
AA	AA	AG	AA	AA	AA	AG	AG	AG	AG	AA
AA	AG	AG	AA	AG	AG	AA	AG	AG	AA	AA
AA	AA	AA	AG	AG	AG	AG	AA	AG	AG	AG
AG	AG	AG	AA	AG	AG	AG	AG	AG	AG	AA
AG	AA	AG	AG	AG	AG	AA	AA	AG	AG	AG
AG	AG	AG	AG	AA	AG	AG	AG	AG	AG	AA
AA	AG	AA	AG	AG	AG	AA	AA	AA	AG	
GDsnp00329	15	3601346		AT	AT	AA	AT	AT	AT	AA
AT	AT	AT	AA	TT	AT	TT	TT	AT	AT	AA
AT	TT	AT	AA	AA	AT	AT	AT	AT	AT	AT
TT	AT	TT	TT	AT	TT	AT	TT	TT	AT	AA
AT	AT	TT	AT	AT	AT	TT	AT	TT	AT	TT
AA	TT	AT	AT	AT	AT	AT	TT	AT	AT	AA
AT	TT	AT	TT	TT	AT	AA	TT	TT	TT	AT
AT	TT	AT	AT	AA	TT	AT	AT	AT	AT	AT
AT	TT	AA	TT	TT	TT	AT	AT	AT	TT	
GDsnp00330	15	4387625		AG	AG	GG	AG	AG	AG	GG
AG	AG	AG	AG	AA	AG	AA	AA	AG	AG	GG
AG	AA	AG	GG	GG	AG	AG	AG	AG	AG	AG
AA	AG	AA	AA	AG	AA	AG	AA	AA	AA	GG
AG	AG	AA	AG	AG	AG	AG	AG	AA	AG	AA
GG	AA	AG	AG	AG	GG	AG	AA	AG	AG	GG
AG	AA	AG	AA	AA	AG	GG	AA	AA	AA	AG
GG	AA	AG	GG	AG	AA	AG	AG	AG	AG	AG
AG	AA	GG	AA	AA	AA	AG	AG	AG	AA	
GDsnp01454	15	4911763		AG	AG	AA	AG	AG	AG	AA
AG	AG	AG	AA	GG	AG	GG	GG	AG	AG	AG
AG	GG	AG	AA	AA	AG	AG	AG	AG	AG	AG
GG	AG	GG	GG	AG	GG	AG	GG	GG	GG	AA
AG	AG	GG	AG	AG	AG	AG	AG	GG	AG	GG
AA	GG	AG	AG	AG	AA	AG	GG	AG	AG	AA
AG	GG	AG	GG	GG	AG	AA	GG	GG	GG	AG
AA	GG	AG	AA	AA	GG	AG	AG	AG	AG	AG
AG	GG	-	GG	GG	GG	GG	AG	AG	GG	

Continued next page

Supplemental Table 2. Continued.

SNP name		Linkage group		Physical location (bp)		Individuals				
GDsnp00758	15	4951639		AA	AA	AA	AA	AA	AA	AA
AA	AG	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AG	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AG	AA	AA	AA	AA
GDsnp00191	15	5721310		TT	TT	TT	TT	TT	TT	TT
AT	AT	TT	TT	TT	TT	TT	TT	TT	TT	TT
TT	TT	TT	TT	TT	TT	AT	TT	TT	TT	TT
TT	TT	TT	TT	TT	TT	TT	TT	TT	TT	TT
TT	TT	TT	TT	TT	TT	TT	TT	TT	TT	TT
TT	TT	TT	AT	TT	TT	TT	TT	TT	TT	TT
TT	TT	TT	TT	TT	TT	TT	TT	TT	TT	TT
TT	TT	TT	TT	AT	TT	TT	TT	TT	TT	TT
TT	TT	TT	TT	TT	TT	AT	TT	TT	TT	TT
GDsnp01820	15	6236008		AT	AT	TT	TT	AT	AT	TT
TT	-	TT	AT	AT	TT	AT	AT	TT	AT	TT
TT	AT	AT	TT	TT	TT	-	AT	AT	AT	TT
TT	AT	AT	TT	AT	AT	TT	AT	AT	AT	AT
TT	TT	TT	AT	AT	AT	-	AT	AT	TT	AT
TT	TT	AT	-	AT	TT	AT	AT	AT	AT	TT
AT	TT	AT	AT	AT	AT	TT	TT	AT	AT	AT
TT	AT	AT	TT	AT	AT	AT	AT	AT	AT	TT
TT	AT	AT	AT	AT	AT	-	AT	AT	AT	AT
GDsnp01130	15	6757592		GG	GG	GG	GG	GG	GG	GG
GG	AG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	AG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	-	GG	GG	GG	GG
GG	GG	GG	-	GG	GG	AG	GG	GG	GG	GG
GDsnp00274	15	7284741		AA	AA	AA	AA	AA	AA	AA
AA	AC	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AC	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AC	AA	AA	AA	AA
GDsnp01488	15	7769721		CC	CC	CC	CC	CC	CC	CC
AC	AC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	AC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	AC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	AC	CC	CC	CC	CC

Continued next page

Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp00271	15	11402005		AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AC	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AC
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AC	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AC	AA	AA	AA	AA
GDsnp01146	15	11945655		GG	GG	GG	GG	GG	GG	GG
GG	AG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	AG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	AG
GG	GG	GG	GG	GG	GG	-	GG	GG	GG	GG
GG	GG	GG	AG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	AG	GG	GG	GG	GG
GDsnp00816	15	14144051		GG	AG	GG	GG	AA	AG	AG
AG	AG	AA	AG	AA	AG	AA	AG	AA	AG	AA
AA	GG	AG	GG	GG	AA	AG	AG	AG	AG	AG
-	AG	AG	AA	AG	AA	AG	AA	AA	GG	AA
AG	AG	AA	AA	AG	AG	-	AG	AA	AG	AA
GG	AG	AG	AA	AG	GG	AG	AA	AG	AG	GG
AG	AA	AG	AA	AA	AG	AG	AA	AA	AA	AG
GG	AA	AG	GG	AG	AA	AA	AG	AA	AG	AG
AG	AA	AG	AG	AA	AA	AA	AG	AA	AA	AA
GDsnp00273	15	14617139		AA	AG	AA	AA	GG	AG	GG
AG	AG	GG	AG	GG	AG	GG	AG	GG	AG	GG
GG	AA	AG	AA	AA	GG	AG	AG	AG	AG	AG
-	AG	AG	GG	AG	GG	AG	GG	GG	AA	GG
AG	AG	GG	GG	AG	AG	AG	AG	GG	AG	GG
AA	AG	AG	GG	AG	AA	AG	GG	AG	AG	AA
AG	GG	AG	GG	GG	AG	AG	GG	GG	GG	AG
AA	GG	AG	AA	AG	GG	GG	AG	GG	AG	AG
AG	AG	AG	AG	GG	GG	GG	AG	GG	GG	GG
GDsnp02029	15	14736474		AA	AT	AA	AA	TT	AT	TT
AT	AT	TT	AT	TT	AT	TT	AT	TT	AT	TT
TT	AA	AT	AA	AA	TT	AT	AT	AT	AT	AT
-	AT	AT	TT	AT	TT	AT	TT	TT	AA	TT
AT	AT	TT	TT	AT	AT	AT	AT	TT	AT	TT
AA	AT	AT	TT	AT	AA	AT	TT	AT	AT	AA
AT	TT	AT	TT	TT	AT	AT	TT	TT	TT	AT
AA	TT	AT	AA	AT	TT	TT	AT	TT	AT	AT
AT	AT	AT	AT	TT	TT	TT	AT	TT	TT	TT
GDsnp01229	15	15290673		GG	AG	GG	GG	AA	AG	AA
GG	GG	AA	AG	AA	AG	AA	AG	AA	AG	AA
AA	GG	AG	GG	GG	AA	GG	AG	AG	AG	AG
-	AG	AG	AA	AG	AA	AG	AA	AA	AG	AG
AG	AG	AA	AA	AG	AG	AG	GG	-	AG	AA
GG	AG	AG	AG	AG	GG	AG	AA	AG	AG	GG
AG	AA	GG	AA	AA	AG	AG	AG	AA	AA	AG
GG	AA	AG	GG	AG	AA	AA	AG	AA	AG	AG
AG	AG	AG	AG	AA	AA	AG	AG	AA	AA	AA

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Supplemental Table 2. Continued.

SNP name		Linkage group		Physical location (bp)		Individuals				
GDsnp01622	15	18565063		AG	AG	GG	GG	AA	AG	AA
GG	AG	AA	AG	AA	AG	AA	AG	AA	AG	AA
AA	AG	AG	GG	GG	AA	AG	AG	AG	AG	AG
-	AG	AG	AA	AG	AA	AG	AA	AA	AG	AA
AG	AG	AA	AA	AG	AG	AG	AG	AA	AG	AA
GG	AG	AG	AA	AG	GG	AG	AA	AG	AG	GG
AG	AA	GG	AA	AA	AG	AG	AA	AA	AA	AG
GG	AA	AG	AG	AG	AA	AA	AG	AA	AA	AG
AG	AG	AA	AG	AA	AA	AG	AG	AG	AG	
GDsnp02823	15	20098763		AT	AT	AT	AT	TT	TT	TT
AT	AT	TT	AT	TT	TT	AT	AT	AT	TT	TT
AT	TT	AT	AT	TT	TT	AT	TT	TT	TT	TT
TT	TT	TT	TT	AT	AT	AT	TT	TT	AT	TT
TT	TT	TT	TT	TT	TT	TT	-	AT	TT	TT
TT	TT	TT	TT	TT	TT	TT	TT	AT	AT	TT
AT	TT	TT	AT	TT	TT	TT	AT	AT	TT	AT
TT	TT	TT	TT	AT	TT	AT	TT	AT	TT	TT
TT	TT	TT	TT	TT	TT	TT	AT	TT	TT	
GDsnp00984	15	20713294		AT	AT	TT	AT	AA	TT	AA
AT	AT	AA	AT	AT	AT	AA	AT	AA	AT	AA
AA	AT	AT	TT	TT	AA	AT	AT	AT	AT	AT
AT	AT	AT	AA	AT	AA	AA	AA	AA	AT	AT
AT	AT	AA	AA	AA	AT	AT	-	AA	AT	AT
TT	AT	AT	AT	TT	TT	AT	AA	AT	AT	TT
AT	AA	TT	AA	AA	AT	AT	AA	AA	AA	AA
TT	AA	AT	AT	AT	AA	AA	AT	AA	AA	AT
AT	AT	AA	AT	AA	AA	AT	AT	AT	AT	
GDsnp02859	15	21725620		AG	AG	GG	AG	AA	GG	AA
AG	AG	AA	AG	AG	AG	AA	AG	AA	AG	AA
AA	AG	AG	AG	GG	AA	AG	AG	AG	AG	AG
AG	AG	AG	AA	AG	AA	AA	AA	AA	AG	AG
AG	AG	AA	AA	AA	AG	AG	AG	AA	AG	AG
GG	AG	AG	AG	GG	GG	AG	AG	AA	AG	GG
AG	AA	GG	AA	AA	AG	AG	AA	AA	AA	AA
GG	AA	AG	AG	AG	AG	AA	AG	AA	AA	AG
AG	AG	AA	AG	AA	AA	AG	AG	AG	AG	
GDsnp00848	15	23555361		AG	AG	GG	AG	AA	GG	AA
AG	AG	AA	AG	AG	AG	AA	AG	AA	AG	AA
AA	AG	AG	AG	GG	AA	AG	AG	AG	AG	AG
AG	AG	AG	AA	AG	AA	AA	AA	AA	AG	AG
AG	AG	AA	AA	AA	AG	-	AG	AA	AG	AG
GG	AG	AG	AG	GG	GG	AG	AG	AA	AG	GG
AG	AA	GG	AA	AA	AG	AG	AA	AA	AA	AA
GG	AA	AG	AG	AG	AG	AA	AG	AA	AA	AG
AG	AG	AG	AG	AA	AA	AG	AG	AG	GG	
GDsnp00241	15	29159671		AA	CC	CC	AA	AC	AA	AC
AC	AC	CC	AA	AC	AC	CC	AC	CC	AC	CC
CC	AC	AC	CC	AA	AC	AC	AC	AC	AC	AC
AC	AC	AC	CC	AA	AA	CC	CC	CC	AC	AC
AC	AC	AC	CC	CC	AC	AC	AC	AC	AC	AC
AA	AC	CC	CC	AA	AA	AC	AC	AC	AC	AA
AC	AC	AC	CC	CC	AC	AC	AA	CC	CC	CC
AA	AC	AC	AC	AA	AC	AC	AC	CC	AC	AC
AC	AA	AC	AC	CC	CC	AC	AC	AC	AA	

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Supplemental Table 2. Continued.

SNP name		Linkage group		Physical location (bp)		Individuals				
GDsnp00357	15	35281901		AG	GG	GG	AG	AG	AG	AG
AG	AG	GG	AA	AA	AG	GG	AG	GG	AG	GG
GG	AG	AA	GG	AA	AG	AG	AG	AG	AG	AG
AG	AG	GG	GG	AG	AA	AG	GG	GG	AA	AG
AG	AG	AG	AG	GG	AG	AG	AG	AG	AG	AG
AA	AG	GG	GG	AG	AA	AG	AG	AG	AG	AA
AG	AG	AG	GG	GG	GG	AG	AA	GG	AG	GG
AA	GG	AG	AG	AA	AG	AG	AG	GG	AG	AG
AA	AA	AG	AG	AG	GG	AG	AG	AG	AA	
GDsnp01805	15	38381924		AA	GG	GG	AA	AG	AA	AG
GG	AG	GG	AA	AA	AG	GG	GG	GG	AG	GG
GG	AG	AA	GG	AA	AG	AG	AG	AG	AG	AG
AG	AG	AA	GG	AG	AA	AG	AG	GG	AG	AG
AG	AG	AG	AG	GG	AG	-	AG	AG	AG	AG
AA	AG	GG	GG	AG	AA	AG	AG	AG	AG	AA
AG	AG	AG	AG	GG	GG	AG	AA	AG	AG	GG
AA	AG	AG	AG	AG	AA	-	AG	GG	AG	AG
AG	AA	AG	GG	AG	GG	GG	AG	AG	AA	
GDsnp00661	15	43094875		AT	TT	TT	AA	AT	AT	TT
TT	-	TT	AT	AA	TT	TT	TT	TT	AT	TT
AT	AA	AT	TT	AA	AT	AT	AT	AT	AT	AT
AT	AT	AT	TT	AT	AA	TT	AT	TT	AT	AT
AT	AT	AT	AT	TT	AT	AT	AT	AT	AT	AT
AA	AT	AT	TT	AT	AA	AT	AT	AT	AT	AT
AT	AT	AT	AT	TT	TT	AT	AT	AT	AT	TT
AT	TT	TT	AT	AT	AA	AA	AT	TT	AT	AT
AT	AA	AT	TT	AT	TT	TT	TT	AT	AA	
GDsnp00525	15	45537136		AC	CC	CC	CC	CC	AC	AC
AC	-	AC	AC	CC	CC	CC	CC	AC	CC	CC
CC	CC	CC	CC	CC	CC	-	CC	CC	CC	CC
CC	CC	AC	CC	CC	CC	CC	CC	CC	AC	CC
CC	CC	CC	CC	CC	CC	CC	AC	CC	CC	CC
CC	CC	CC	AC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	AC	AC	CC	CC	CC
CC	AC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	AC	CC	CC	CC	
GDsnp01588	16	1221007		CC	CC	CC	CC	AA	CC	CC
AA	CC	CC	AA	AA	CC	AA	CC	AA	CC	CC
CC	CC	AA	AA	CC	CC	AC	AA	AA	CC	AA
CC	CC	AA	AA	CC	CC	CC	AA	AA	AA	AA
AA	CC	AA	AA	AA	CC	AA	AC	CC	CC	AA
CC	CC	AA	AA	AA	CC	AA	AA	CC	CC	AA
CC	AA	AA	AA	CC	CC	CC	AA	AA	CC	CC
AA	CC	CC	CC	CC	AA	AA	AA	CC	AA	CC
CC	CC	CC	CC	AA	CC	CC	CC	CC	AA	
GDsnp01600	16	1344071		AG	AG	AG	AG	GG	AG	AG
GG	AG	AG	GG	GG	AG	GG	AG	GG	AG	AG
AG	AG	GG	GG	AG	AG	AG	GG	GG	GG	GG
AG	AG	GG	GG	AG	AG	AG	GG	GG	GG	GG
GG	AG	GG	GG	GG	AG	GG	AG	AG	AG	GG
AG	AG	GG	GG	GG	AG	GG	GG	AG	AG	GG
AG	GG	GG	GG	AG	AG	AG	GG	GG	AG	AG
GG	AG	AG	AG	AG	GG	GG	GG	AG	GG	AG
AG	AG	AG	AG	GG	AG	AG	AG	AG	GG	

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Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp01734	16	1620445		GG	GG	GG	AG	AG	AG	GG
AG	AG	GG	AA	AG	GG	AG	AG	AG	GG	GG
AG	GG	AA	AG	GG	GG	AA	AG	AG	AG	AG
GG	AG	AG	AA	AG	AG	AG	AG	AG	AG	AG
AG	AG	AG	AG	AA	AG	AA	GG	AG	GG	AG
AG	GG	AA	AA	AG	GG	AG	AG	GG	GG	AG
GG	AA	AG	AA	GG	AG	GG	AG	AA	GG	AG
AG	GG	GG	GG	GG	AG	AG	AG	AG	AG	AG
AG	GG	GG	AG	AG	AG	GG	AG	AG	AA	
GDsnp00292	16	1668613		CC	CC	CC	AC	AC	AC	CC
AC	AC	CC	AA	AC	CC	AC	AC	AC	CC	CC
AC	CC	AA	AC	CC	CC	AC	AC	AC	AC	AC
CC	AC	AC	AA	AC	AC	AC	AC	AC	AC	AC
AC	AC	AC	AC	AA	AC	AA	CC	AC	CC	AC
AC	CC	AA	AA	AC	CC	AC	AC	CC	CC	AC
CC	AA	AC	AA	CC	AC	CC	AC	AA	CC	AC
AC	CC	CC	CC	CC	AC	AC	AC	AC	AC	AC
AC	CC	CC	AC	AC	AC	CC	AC	AC	AA	
GDsnp00269	16	1770342		AA	AA	AA	AG	AG	AG	AA
AG	AG	AA	GG	AG	AA	AG	AG	AG	AA	AA
AG	AA	GG	AG	AA	AA	GG	AG	AG	AG	AG
AA	AG	AG	GG	AG	AG	AG	AG	AG	AG	AG
AG	AG	AG	AG	GG	AG	GG	AA	AG	AA	AG
AG	AA	GG	GG	AG	AA	AG	AG	AA	AA	AG
AA	GG	AG	GG	AA	AG	AA	AG	GG	AA	AG
AG	AA	AA	AA	AA	AG	AG	AG	AG	AG	AG
AG	AA	AA	AG	AG	AG	AA	AG	AG	GG	
GDsnp00923	16	2084181		AA	AA	AG	AG	AG	AG	AA
AG	AG	AA	GG	AG	AA	AG	AG	AG	AA	AA
AG	AA	GG	AG	AA	AA	GG	AG	AG	AG	AG
AA	AG	AG	GG	AG	AG	AG	AG	AG	AG	AG
AG	AG	AG	AG	GG	AG	GG	AG	AG	AA	AG
AG	AA	GG	GG	AG	AA	AG	AG	AA	AA	AG
AA	GG	AG	GG	AA	AG	AA	AG	GG	AA	AG
AG	AA	AA	AA	AA	AG	AG	AG	AG	AG	AG
AG	AA	AA	AG	AG	AG	AA	AG	AG	GG	
GDsnp00196	16	3023008		AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AG	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
GDsnp00069	16	3238583		GG	GG	GG	AG	GG	AG	GG
AG	AG	GG	AG	GG	AG	GG	AG	GG	GG	GG
AG	GG	AG	GG	GG	GG	GG	GG	GG	AG	AG
AG	AG	AG	AG	AG	AG	AG	GG	GG	AG	GG
GG	AG	GG	GG	AG	AG	AG	AG	AG	GG	GG
AG	GG	AG	AG	GG	GG	GG	AG	GG	AG	GG
GG	AG	GG	GG	GG	AG	GG	GG	AG	GG	AG
GG	GG	GG	GG	GG	GG	GG	GG	AG	AA	AA
AG	GG	GG	AG	GG	AG	GG	AG	AG	AG	

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Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp01094	16	3712687		GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
GDsnp01186	16	3970589		AG	AG	AA	AG	AA	AG	AG
AG	AG	AA	AG	AA	GG	AA	GG	AA	AA	AG
GG	AA	AG	AA	AG	AA	AG	AA	AA	AG	AG
AG	GG	AG	AG	GG	AG	GG	AA	AA	AG	AG
AA	AG	AA	AG	AG	AG	AG	AG	GG	AA	AA
GG	AG	AG	AG	AA	AG	AA	AG	AG	AG	AA
AG	AG	AG	AA	AG	GG	AG	AA	AG	AG	GG
AA	AA	AG	AG	AG	AA	AA	AA	GG	GG	GG
AG	AG	GG	GG	AA	AG	AG	GG	AG	AG	
GDsnp01003	16	6056690		GG	AG	GG	AG	AG	AG	GG
AG	AG	GG	GG	GG	AA	GG	AG	GG	GG	AG
AG	GG	AG	AG	AG	GG	AG	GG	GG	AG	AG
AG	AA	AA	AG	AG	GG	AA	GG	GG	GG	AA
GG	AG	GG	AG	AG	AG	AG	AG	AA	GG	GG
AG	AG	AG	AG	GG	AG	GG	AG	GG	AG	GG
AG	AA	AG	GG	AG	AA	AG	GG	AG	AG	AA
GG	GG	AG	AG	AG	GG	GG	GG	AA	AG	AA
AG	AG	AA	AA	GG	GG	AA	AA	GG	AG	
GDsnp00071	16	6173845		AA	AT	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AT	AA	AA	AA	AA	AT
AA	AA	AA	AT	AT	AA	AA	AA	AA	AA	AA
AA	AT	AA	AA	AA	AA	AT	AA	AA	AA	AA
AA	AA	AA	AT	AA	AA	AA	AA	AT	AA	AA
AA	AT	AA	AA	AA	AT	AA	AA	AA	AA	AA
AT	AT	AT	AA	AT	AA	AA	AA	AA	AT	AT
AA	AA	AT	AT	AT	AA	AA	AA	AT	AA	AA
AA	AT	AT	AT	AA	AA	AT	AT	AA	AA	
GDsnp01730	16	8722181		AG	AG	AA	AG	AA	AA	AG
AA	AG	AG	AA	AG	AG	AA	AA	AA	AA	AG
AA	AG	AA	AG	AG	AG	AA	AA	AA	AA	AA
AG	AA	AA	AA	AA	AA	AG	AG	AA	AG	AA
AA	AG	AA	AG	AA	AG	AA	AA	AG	AG	AA
AA	AG	AA	AA	AG	AG	AA	AA	AA	AA	AA
AG	AG	AG	AA	AG	AA	AA	AA	AA	AG	AG
AG	AA	AG	AG	AG	AG	AG	AA	AG	AA	AA
AG	AA	AG	AG	AG	AG	AA	AG	AA	AA	
GDsnp01244	16	11556924		AG	AG	GG	AG	GG	GG	AG
GG	AG	AG	GG	AG	AG	GG	GG	GG	GG	AG
GG	AG	GG	AG	AG	AG	AG	GG	GG	GG	GG
AG	GG	GG	GG	GG	GG	AG	AG	GG	AG	AG
GG	AG	GG	AG	GG	AG	GG	AG	AG	AG	GG
GG	AG	GG	GG	AG	AG	GG	GG	GG	GG	GG
AG	AG	AG	GG	AG	GG	GG	GG	GG	AG	AG
AG	GG	AG	AG	AG	AG	AG	GG	AG	GG	GG
AG	GG	AG	AG	AG	AG	GG	AG	GG	GG	

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Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp00444	16	13470183		CG	GG	CG	CG	CG	GG	CG
GG	CG	CG	GG	GG	GG	CG	CG	GG	GG	GG
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CG	GG	GG	CG	GG	GG	GG	GG	GG	GG	CG
CG	CG	CG	GG	GG	GG	GG	CG	GG	CG	GG
CG	GG	GG	GG	GG	GG	GG	GG	GG	GG	CG
GG	GG	GG	GG	GG	GG	GG	GG	CG	GG	GG
GG	GG	GG	GG	GG	GG	GG	CG	GG	CG	GG
CG	CG	GG	GG	GG	CG	CG	GG	CG	CG	
GDsnp00356	16	13548410		AG	GG	AG	AG	AG	GG	AG
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AG	GG	GG	AG	GG	GG	GG	GG	GG	AG	AG
AG	AG	AG	GG	GG	GG	GG	AG	GG	AG	GG
AG	GG	GG	GG	GG	GG	GG	GG	GG	GG	AG
GG	GG	GG	GG	GG	GG	GG	GG	AG	GG	GG
GG	GG	GG	GG	GG	GG	GG	AG	GG	AG	GG
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GDsnp01563	16	14381429		AG	AG	AG	AG	AG	GG	AG
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AG	AG	GG	AG	AG	AG	AG	AG	AG	GG	GG
AG	GG	GG	AG	GG	GG	AG	AG	GG	GG	GG
AG	AG	AG	AG	GG	GG	GG	AG	AG	AG	GG
AG	AG	GG	GG	AG	AG	AG	GG	GG	GG	AG
AG	AG	AG	AG	AG	GG	GG	GG	AG	AG	AG
GG	GG	AG	AG	AG	AG	AG	AG	AG	AG	GG
AG	AG	AG	AG	GG	AG	AG	AG	AG	AG	
GDsnp00013	16	14991284		AG	AG	AG	AG	AG	AA	AG
AA	AG	AG	AG	AG	AG	AG	AG	AA	AA	AG
AG	AG	AA	AG	AG	AG	AG	AG	AG	AA	AA
AG	AA	AA	AG	AA	AA	AA	AG	AA	AA	AA
AG	AG	AA	AA	AG	AG	AG	AG	AA	AA	AG
AG	AG	AG	AG	AG	AA	AA	AG	AG	AG	AG
AA	AA	AG	AG	AG	AG	AG	AG	AG	AG	AA
AG	AG	AG	AG	AA	AG	AG	AG	AG	AG	
GDsnp02664	16	15523355		AA	AC	AC	AA	AC	AC	AC
AA	AC	AC	AC	AC	AC	AC	AC	AA	AC	AC
AC	AC	AA	AC	AC	AC	AA	AC	AC	AA	AA
AC	AA	AA	AC	AA	AC	AC	AC	AA	AA	AA
AC	AC	AC	AC	AA	AA	AA	AA	AC	AC	AA
AC	AC	AA	AA	AC	AC	AC	AC	AA	AA	AC
AC	AC	AC	AC	AC	AA	AA	AC	AC	AC	AC
AA	AA	AC	AC	AC	AC	AC	AC	AC	AC	AA
AC	AC	AC	AC	AA	AC	AC	AC	AC	AC	
GDsnp01402	16	16845645		CG	CG	CG	CG	GG	GG	CG
CG	CG	CG	CG	CG	GG	GG	GG	GG	CG	GG
GG	GG	CG	CG	GG	CG	CG	CG	CG	CG	CG
GG	CG	CG	CG	CG	CG	CG	CG	CG	CG	GG
GG	GG	CG	GG	GG	GG	CG	GG	CG	GG	CG
GG	CG	CG	GG	CG	CG	GG	CG	CC	GG	CG
CG	GG	CG	CG	CG	CG	CC	GG	CG	CG	CG
GG	CG	CG	CG	CG	CG	CG	CG	GG	GG	GG
GG	CG	GG	GG	CG	CG	GG	GG	CG	GG	

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Supplemental Table 2. Continued.

SNP name	Linkage group			Physical location (bp)			Individuals			
GDsnp00626	16	19121778		AG	AG	AA	AG	AG	GG	AA
AA	AA	AA	AG	AG	GG	AG	AG	GG	AG	GG
AG	AG	AG	AG	GG	AG	AA	AG	AG	AG	AG
AG	AG	AG	AA	AG	AG	AG	AG	AG	AA	GG
AG	AG	AA	GG	GG	GG	AG	GG	AG	AG	AG
AG	AG	AG	GG	AG	AG	GG	AG	AG	GG	AA
AG	AG	AG	AG	AG	AG	AA	GG	AA	AG	AG
GG	AG	AG	AA	AG	GG	AG	AA	AG	AG	AG
AG	AA	GG	GG	AG	AA	AG	GG	AA	AG	
GDsnp00091	17	50402	AA	AA	AA	AA	AA	AA	AA	AG
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AG	AA	AA
AA	AA	AA	AA	AA	-	AG	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AG	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AG	AA	AA	AA	AA	
GDsnp00192	17	244794		AA	AA	AA	AA	AA	AA	AA
AC	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AC	AA
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AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AC	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AC	AA	AA	AA	
GDsnp01841	17	1132464		TT	TT	TT	TT	TT	TT	TT
TT	TT	TT	TT	TT	TT	TT	TT	TT	TT	TT
TT	TT	TT	TT	TT	TT	TT	TT	TT	TT	TT
TT	TT	TT	TT	TT	TT	TT	TT	TT	TT	TT
TT	TT	TT	TT	TT	TT	TT	AT	TT	TT	TT
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TT	TT	TT	TT	TT	TT	TT	TT	TT	TT	TT
TT	TT	TT	TT	TT	TT	TT	TT	TT	TT	TT
TT	TT	TT	TT	TT	TT	AT	TT	TT	TT	
GDsnp00290	17	2077144		AG	AA	AA	GG	AG	AG	AA
-	GG	AG	AA	GG	AG	AG	GG	AA	AG	AA
AG	AG	AG	AG	AA	AG	AG	GG	GG	AA	AG
AG	AA	AA	GG	AA	GG	GG	AG	AG	AA	AA
GG	GG	GG	AA	AG	AG	AA	AG	AG	AG	AG
GG	GG	AA	AA	AG	AG	AA	AG	GG	AG	GG
AA	AG	AG	AG	GG	GG	AG	AA	AG	AG	AG
AG	AG	GG	AG	AG	GG	GG	AG	AG	AG	GG
GG	AA	AG	AG	GG	AG	AA	AA	GG	AG	
GDsnp00202	17	3133119		AA	AA	AA	AA	AA	AA	AA
AA	AG	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AG	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	-	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AG	AA	AA	AA	

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Supplemental Table 2. Continued.

SNP name		Linkage group		Physical location (bp)		Individuals				
GDsnp00088	17	3613988	AA	AA	AA	AA	AA	AA	AA	AA
AG	AG	AG	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AG	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AG	AA
AA	AA	AA	AA	AA	AA	AA	AG	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	-	AA	AA	AG	AA	AA	AA	
GDsnp00328	17	4173966	AT	AA	AA	TT	AT	AA	AA	AA
AT	TT	AT	AT	TT	AT	AT	AT	-	AT	AA
AT	AT	AT	AT	AT	AT	AT	TT	TT	AA	AT
AT	AA	AA	TT	AT	TT	AT	AT	AT	AA	AA
TT	TT	TT	AA	AT	AT	AA	AT	AT	AT	AT
TT	AT	AA	AA	AT	AT	AA	AT	TT	AT	TT
AA	AT	AT	AT	TT	TT	AT	AT	AA	AT	AT
TT	AT	TT	AT	AT	TT	TT	AT	AT	AT	TT
TT	AT	AT	AT	TT	AT	AA	AA	TT	AT	
GDsnp02703	17	4713854	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CC	CC	CC	CC	CC	CC	AC	CC	CC	CC	
GDsnp00262	17	5352180	-	GG	GG	CG	GG	GG	GG	GG
GG	GG	GG	GG	CG	GG	GG	GG	CG	GG	GG
GG	GG	GG	GG	GG	CG	GG	CG	CG	GG	GG
CG	GG	GG	CG	CG	CG	GG	CG	GG	CG	CG
CG	CG	CG	GG	CG	CG	GG	CG	CG	GG	CG
GG	GG	GG	CG	GG	GG	GG	GG	CG	GG	GG
GG	GG	GG	GG	CG	CG	GG	GG	GG	CG	GG
GG	CG	CG	GG	GG	GG	CG	GG	GG	CG	GG
CG	GG	GG	GG	GG	GG	GG	GG	GG	GG	
GDsnp02550	17	6479700	-	-	-	AG	GG	-	-	-
GG	GG	GG	GG	AG	GG	GG	GG	GG	-	-
GG	-	GG	GG	GG	AA	GG	AG	AG	-	-
AA	-	-	AG	AA	AG	GG	GG	GG	GG	GG
AG	AG	AG	-	-	AA	-	GG	-	-	AA
GG	GG	-	GG	GG	GG	-	GG	AG	GG	GG
-	GG	GG	-	AG	AG	GG	AA	-	-	GG
GG	AA	AG	GG	AG	GG	AG	GG	-	-	GG
AG	GG	-	GG	GG	-	GG	-	GG	-	
GDsnp00178	17	8360963	AT	AA	AA	AT	AA	AA	AA	AA
-	AA	AT	AA	AA	AA	AA	AA	AA	AA	AT
AA	AA	AA	AA	AA	AT	AA	AT	AT	AA	AA
AT	AA	AA	AT	AT	AT	AA	AA	AA	AA	AA
AT	AT	AT	AT	AT	AT	AA	AA	AT	AA	AT
AA	AA	AA	AA	AA	AA	AA	AA	AT	AA	AA
AA	AA	AA	AA	AT	AT	AA	AT	AA	AT	AA
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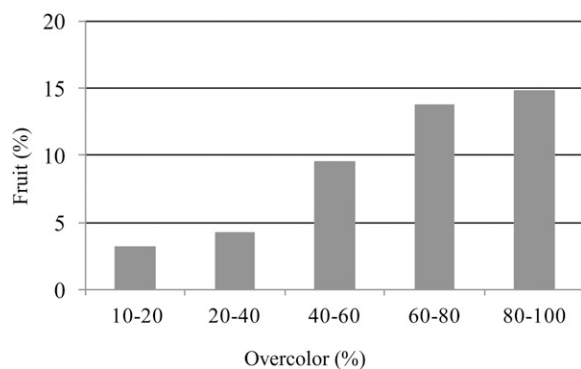
Supplemental Table 2. Continued.

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AT	AA	AT	AT	AT	AT	AT	TT	TT	AA	AA
TT	AA	AA	AT	AT	TT	AT	AT	AT	AT	AA
TT	AT	TT	AT	AT	AT	AA	TT	AT	AT	TT
AT	AT	AA	AA	AT	AT	AT	AT	TT	AT	TT
AT	AT	AT	AT	TT	TT	AT	AT	AA	AT	AT
TT	AT	TT	AT	TT	TT	TT	AT	AT	AT	AT
AT	TT	AA	AT	AT	AA	AA	AA	TT	AA	
GDsnp00287	17	10728484		GG	GG	AG	AG	AG	GG	AG
AG	AG	AA	AA	AA	AG	AG	AG	AG	GG	GG
AG	GG	AG	AG	AG	GG	GG	AG	AG	GG	GG
AG	GG	GG	GG	GG	AG	AG	AG	AG	AG	GG
GG	AG	AG	GG	GG	GG	GG	-	AG	AG	AG
AG	AG	GG	GG	AA	AG	AG	AG	AG	AG	AA
AG	AA	AG	AG	AG	AG	AG	GG	GG	GG	AG
AA	GG	AG	AG	AG	AA	AG	AG	AG	AG	AG
GG	AA	GG	AG	AG	GG	AG	GG	AA	GG	
GDsnp00682	17	11471514		AG	GG	GG	AG	GG	GG	GG
GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	AG
GG	GG	GG	GG	GG	AG	GG	AG	AG	GG	GG
AG	GG	GG	AG	AG	AG	GG	GG	AG	GG	GG
AG	GG	AG	AG	AG	AG	GG	GG	AG	GG	AG
GG	GG	GG	GG	GG	GG	GG	GG	AG	GG	GG
GG	GG	GG	GG	AG	AG	GG	AG	GG	AG	GG
GG	AG	AG	GG	AG	GG	AG	AG	GG	GG	GG
AG	GG	GG	GG	GG	AG	GG	GG	GG	GG	
GDsnp01801	17	11678655		AG	GG	GG	AG	GG	GG	GG
AG	GG	GG	GG	GG	GG	GG	GG	GG	GG	AG
GG	GG	GG	GG	GG	AG	GG	AG	AG	GG	GG
AG	GG	GG	AG	AG	AG	GG	GG	AG	GG	GG
AG	GG	AG	AG	AG	AG	AG	GG	AG	GG	AG
GG	GG	GG	GG	GG	GG	GG	GG	AG	GG	GG
GG	GG	GG	GG	AG	AG	GG	AG	GG	AG	GG
GG	AG	AG	GG	AG	GG	AG	AG	GG	GG	GG
AG	GG	GG	GG	GG	AG	GG	GG	GG	GG	
GDsnp00358	17	13255291		CC	CC	CC	CC	CC	CC	AC
AC	AC	CC	-	CC	CC	CC	CC	-	CC	AC
CC	CC	CC	CC	CC	AC	AC	AC	AC	CC	CC
AC	CC	CC	AC	AC	AC	CC	CC	AC	AC	CC
CC	CC	AC	AC	AC	AC	CC	-	AC	CC	AC
CC	CC	AC	-	CC	CC	CC	CC	AC	CC	CC
CC	CC	CC	CC	AC	AC	CC	CC	CC	AC	CC
CC	AC	AC	CC	-	CC	AC	AC	CC	CC	AC
AC	CC	CC	CC	CC	AC	CC	CC	CC	CC	
GDsnp00058	17	16032466		AG	AG	AA	GG	AG	AA	AG
AA	AG	AG	GG	GG	GG	GG	AG	AG	AA	AA
AG	AA	AG	AG	AG	AA	AA	AG	AG	AA	AG
AG	AA	AA	AA	AA	AG	GG	AG	AG	AG	AG
AG	AG	AG	AA	AA	AA	AA	GG	AG	AG	AG
AG	AG	AA	AA	GG	AG	AA	AG	AG	AG	GG
AG	AG	AG	AG	AG	AG	AG	AG	AA	AA	AG
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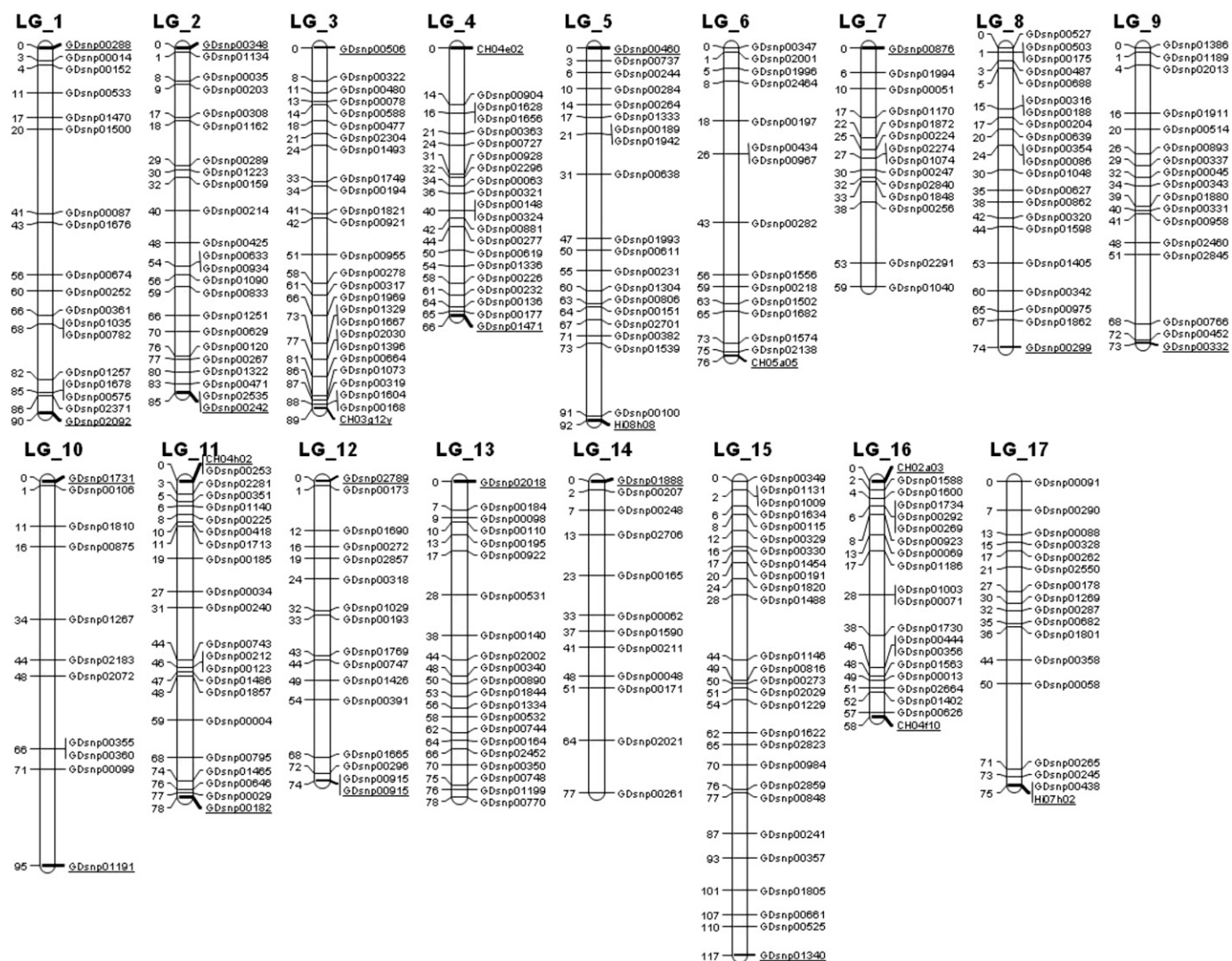
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Supplemental Table 2. Continued.

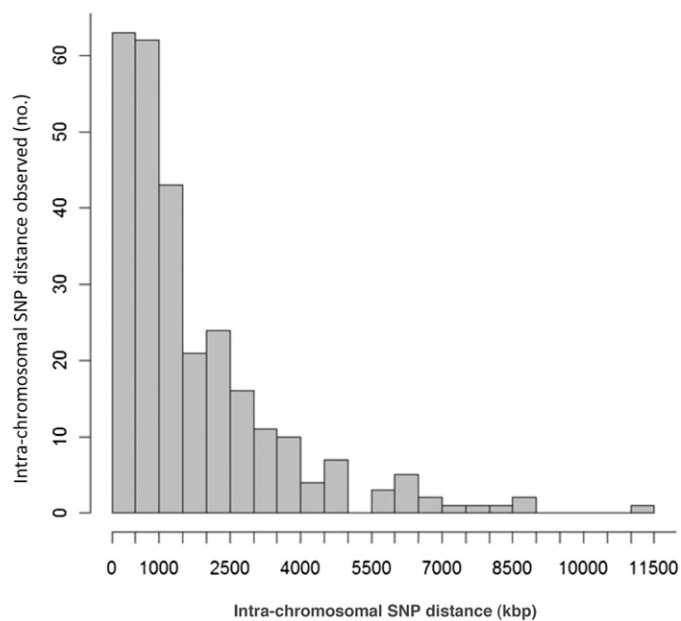
SNP name		Linkage group		Physical location (bp)		Individuals				
GDsnp01098	17	22866829		AA	AA	AA	AA	AA	AA	AA
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AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AG	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
AA	AA	AA	AA	AA	AA	AG	AA	AA	AA	
GDsnp00265	17	23045622		AG	AG	AA	AA	AG	AG	AA
GG	AA	AG	AG	GG	AA	AA	AA	AG	AG	AG
AG	AG	AA	AA	AG	AG	AG	AA	AA	AG	AA
AA	AA	AA	AG	AG	AG	AG	AA	AA	AG	AG
AG	AA	AA	AA	AG	AG	AA	AG	AA	AA	AA
AG	AG	AG	AG	AA	AG	AG	AA	AA	AA	AG
GG	AG	AG	AA	AA	AG	AA	AG	AG	AG	AG
AA	AG	AA	AG	AA	AA	AA	AA	AG	AA	AA
AG	AG	AA	AA	AG	AG	GG	AG	AG	AA	
GDsnp00245	17	23343242		AG	AA	AA	AG	AA	AA	AG
AA	AG	AA	AA	AA	AA	AA	AA	AA	AA	AG
AA	AA	AA	AA	AA	AG	AA	AG	AG	AA	AA
AG	AA	AA	AA	AG	AG	AA	AA	AG	AG	AA
AA	AA	AA	AG	AG	AG	AG	AA	AG	AG	AA
AA	AA	AG	AA	AA	AA	AA	AA	AG	AA	AA
AA	AA	AA	AG	AG	AG	AA	AA	AA	AG	AA
AA	AG	AA	AA	AA	AA	AA	AA	AA	AA	AG
AG	AA	AA	AA	AA	AG	AA	AA	AA	AA	
GDsnp00438	17	24422142		AG	AG	GG	GG	AG	AG	GG
AA	GG	GG	AA	AA	GG	GG	GG	AA	AG	AG
GG	AG	AA	GG	AG	GG	AG	GG	GG	AG	GG
GG	GG	GG	AG	AG	AG	AG	GG	GG	AG	AA
AG	GG	GG	GG	AG	AG	GG	-	GG	GG	GG
AG	AG	AG	AA	GG	AG	AG	GG	AG	AA	AG
AA	AG	AG	GG	GG	AG	GG	AA	GG	AG	AG
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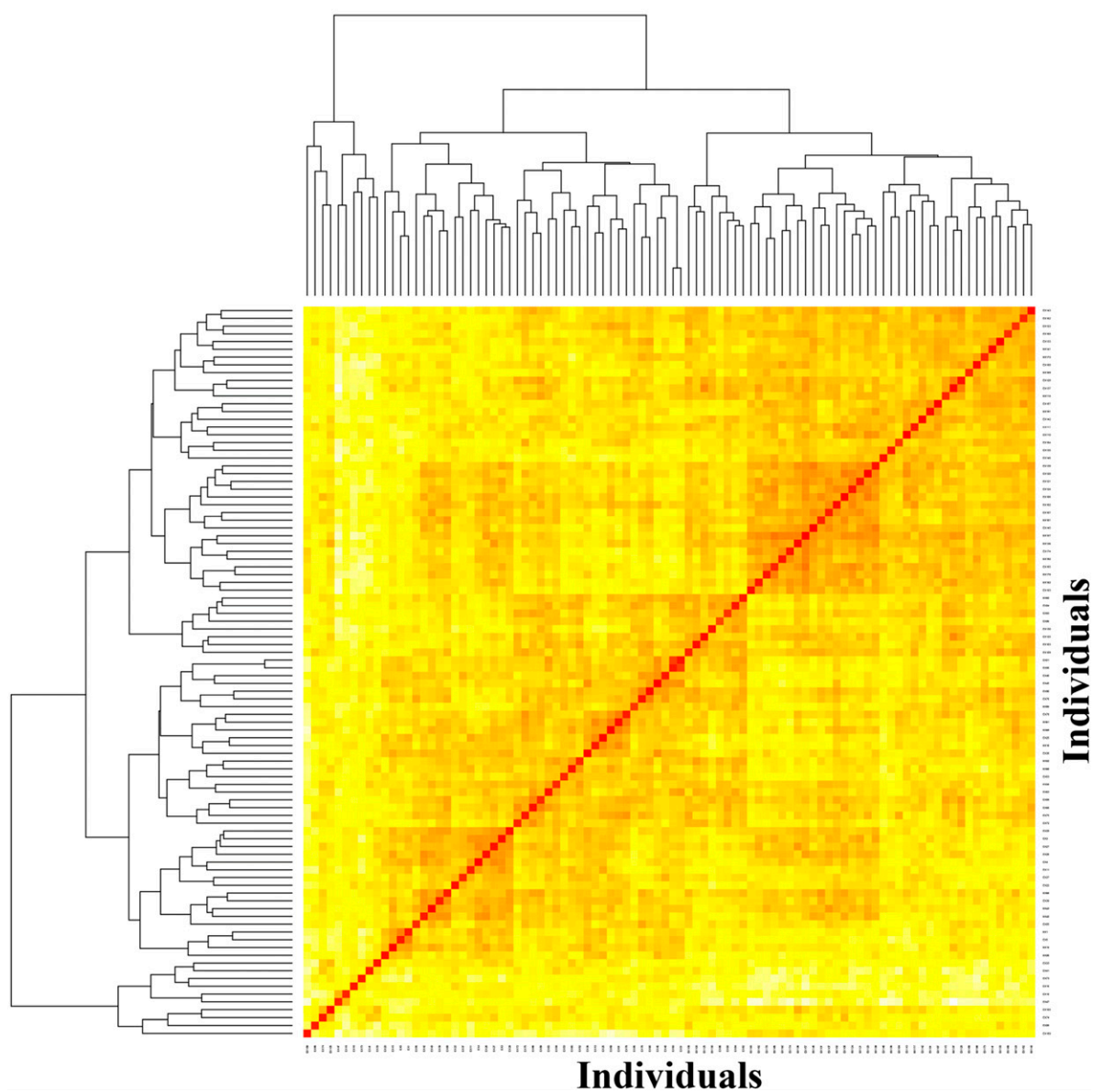
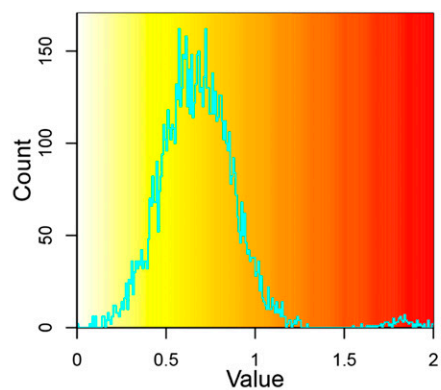
Supplemental Fig. 1. Distribution of surface color for fruit from 94 apple seedlings. Overcolor is expressed as a percentage, averaged over five fruit.



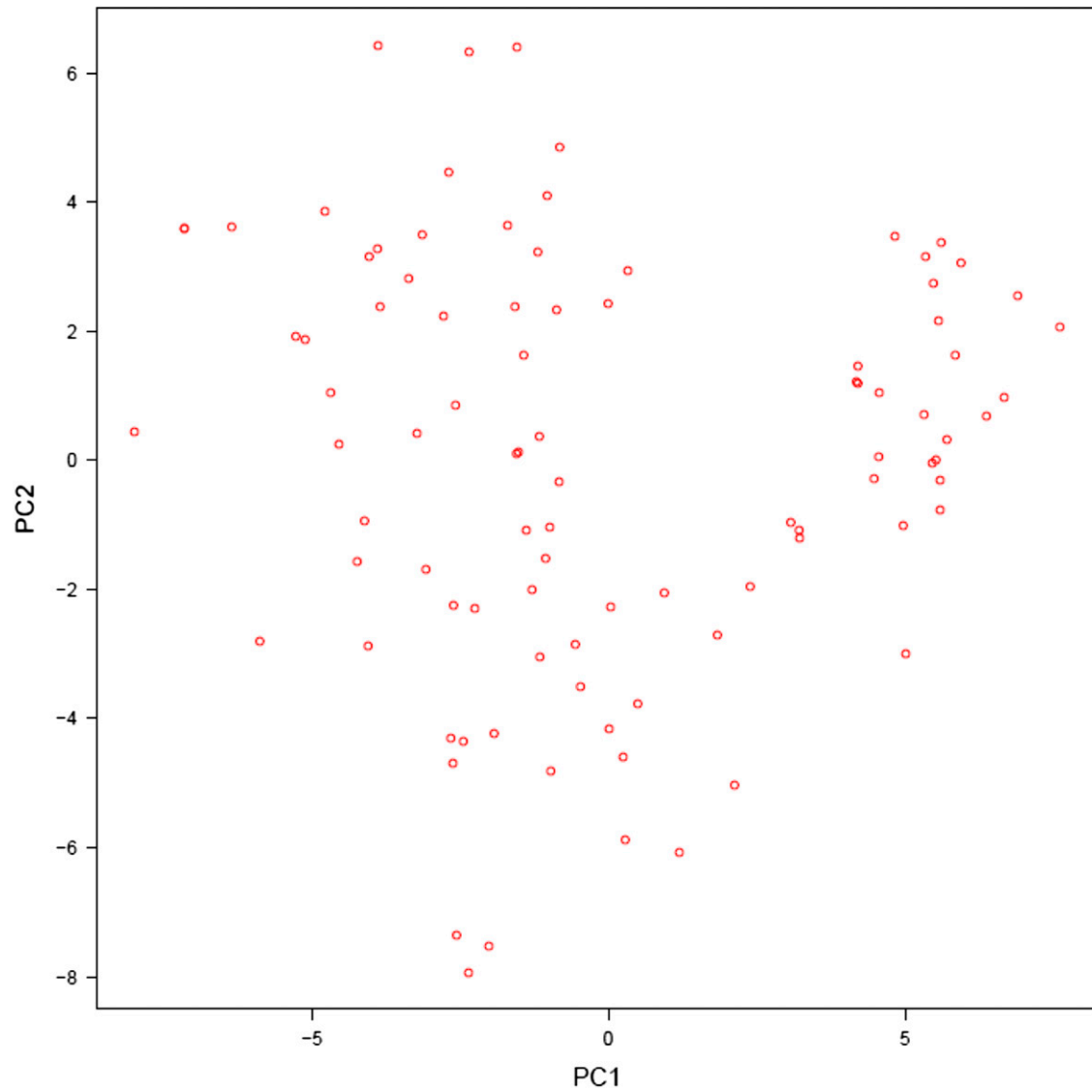
Supplemental Fig. 2. Position of the 295 single nucleotide polymorphism (SNP) markers along the 17 apple linkage groups of the integrated linkage map of Velasco et al. (2010). Underlined markers were not employed in this previous study; however, are reported in this map to indicate the ends of the linkage groups.



Supplemental Fig. 3. Histogram of intra-chromosomal physical distances between single nucleotide polymorphisms (SNPs) used for association analysis in an apple breeding population of 94 seedlings.



Supplemental Fig. 4. Kinship analysis in an apple breeding populations of 94 seedlings. Hierarchical clustering and heat map of the kinship values from the kinship matrix.



Supplemental Fig. 5. Genetic structure of an apple breeding population of 94 seedlings calculated using principal component (PC) analysis.