Supplementary Material

Genotyping

The Axiom®2.0 Reagent Kit (Affymetrix Axiom®2.0 Assay User Guide, Affymetrix, Santa Clara, CA, USA) was used in accordance with the manufacturer's protocol. Approximately 200 ng of genomic DNA was amplified and randomly fragmented into 25 to 125 base pair (bp) fragments. Initial amplification of gDNA was performed in a 40 μL reaction volume, containing 20 μL genomic DNA at a concentration of 10 ng/μL and 20 μL of denaturation Master Mix. The initial amplification reaction was conducted for 10 min at room temperature. After the initial amplification, the incubated products were amplified with 130 μL of Axiom 2.0 Neutral Soln, 225 μL Axiom 2.0 Amp Soln, and 5 μL Axiom 2.0 Amp Enzyme. The amplification reactions were conducted for 23 hours ± 1 hour at 37°C. The amplification products were obtained via an optimized reaction in order to amplify the fragments between 200 and 1100 bp. A fragmentation step was then employed to reduce the amplified products to segments of approximately 25−50 bp, which were then end-labeled using biotinylated nucleotides. Following hybridization, the bound target was washed under stringent conditions to remove non-specific background and minimize the background noise caused by random ligation events. Each polymorphic nucleotide was queried via a multi-color ligation event conducted on the array surface. After ligation, the arrays were stained and imaged using the GeneTitan MC Instrument (Affymetrix). The image was analyzed using Genotyping Console™ Software (Affymetrix). Genotype data were produced using the Korean Chip (K-CHIP) available through the K-CHIP consortium. K-CHIP was designed by the Center for Genome Science, Korea National Institute of Health, Korea (4845-301, 3000-3031).