



Figure S1 Intensity based haplotype assignment. The figures show the intensity plots for two SNPs (IDs shown above each panel) on Chromosome 1 (8,267,657bp and 8,833,220bp, top and bottom respectively). The top left panel is colored according to Illumina's calls (GG, black; AA, green; H, purple and N, light blue). In the top right panel, the same samples are shown as grey dots with the exception of colored glyphs that represent biological replicates of CC founders. This example exhibits four different alleles distributed as follows in the CC founders G1: C57BL/6J; G2: WSB/EiJ; A1: A/J, NZO/HILtJ and PWK/PhJ, and A2: 129S1/SvImJ, NOD/ShiLtJ and CAST/EiJ. A nearby SNP on is shown on the bottom panels. Calls from Illumina are shown on the left (CC, blue; AA, green; H, purple and N, light blue), and the CC founders are highlighted as colored glyphs on the right. Here, the CC founders exhibit two different alleles as expected from Illumina's calls. The combination of these two SNPs discriminates between six groups of founders B,H,(AE,G),(CD,F) which is two more than possible with bi-allelic genotype calls (the parentheses enclose the two clusters from the first SNP that are broken up by the second).