AB Applied Biosystems

Mouse SNPbrowser™ Software v1.0

A free tool for efficient and easy selection of Mouse SNP Genotyping Assays.

- The mouse SNP database underlying the software includes ~10,000 evenly spaced SNP loci genotyped across over 40 inbred mouse strains

- Software wizard easily selects SNPs for genetic mapping or monitoring

- For genetic mapping, each chromosome is segmented into evenly sized blocks based on user-specified mapping resolution, and the software generates evenly spaced SNP coverage throughout the genome

- For genetic monitoring, the software selects optimal SNPs to distinguish between any number of strains at the genome or chromosome level

- Selected SNPs can be exported in a tab-delimited file that displays SNP IDs, location and allelic information
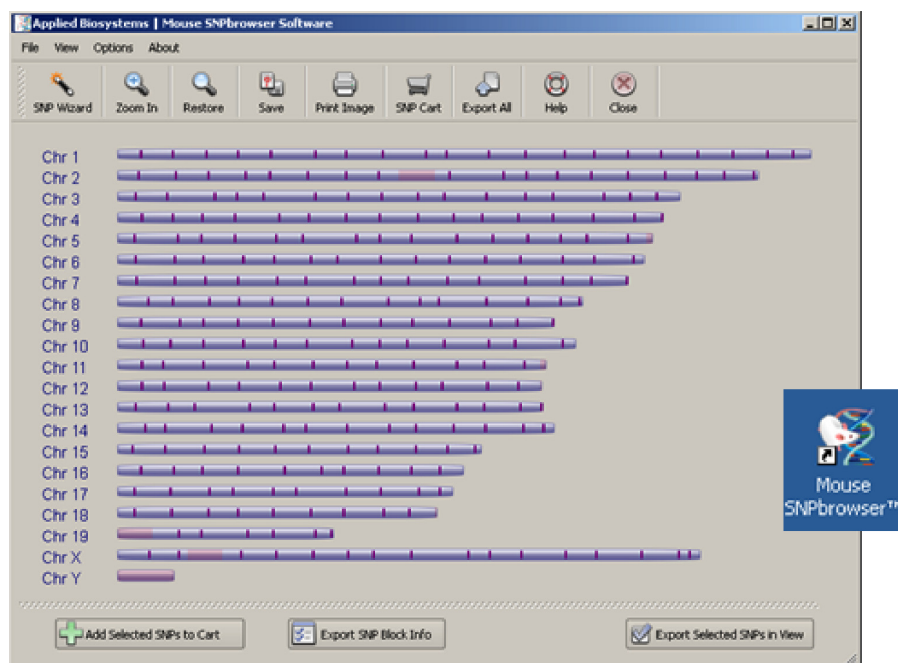

Figure 1. Applied Biosystems Mouse SNPbrowser™ Software v1.0 is a free tool that facilitates the selection of appropriate mouse SNP sets for specific applications in genotype/phenotype mapping and strain verification.

Introduction

Applied Biosystems Mouse SNPbrowser™ Software is a free tool that enables efficient and easy selection of appropriate SNP sets to discriminate between strains of interest, with specific applications in genotype/phenotype mapping and strain verification. SNPbrowser Software visualizes informative SNPs that distinguish two selected mouse strains at a user-definable resolution. There are ~10,000 mouse SNPs genotyped in over 40 of the most common strains. Mouse SNPbrowser Software selects from a collection of SNPs for which Applied Biosystems TaqMan® SNP Genotyping or SNPlex™ Genotyping Systems Assays can be obtained.

Mouse SNPbrowser Software supports genetic monitoring, genetic mapping, and speed congenics applications by offering a variety of tools to search, view, export SNP information, and purchase genotyping assays. The software displays the mouse chromosome map to view SNP location and obtain National Center for Biotechnology Information (NCBI) dbSNP data for SNPs of interest. The software allows SNP selection for two applications: genetic monitoring and genetic mapping.

Getting Started

Mouse SNPbrowser Software can be downloaded for free from **www.allsnps. com/mousesnpbrowser**. Whether installing for the first time, or simply upgrading, the install wizard guides you through the process to load the database and software tools on your operating system.

Intuitive Search and Visualization Tools

The wizard feature lets you choose your application: Genetic Mapping or Genetic Monitoring.

- For Genetic Mapping, the software segments each chromosome into evenly sized blocks based on your specified mapping resolution and searches for distinguishing SNPs in each block to generate evenly spaced SNP coverage throughout the genome. A SNP wizard assists defining your search criteria and a help text file is provided to familiarize you with the extensive functionality.

- For Genetic Monitoring, the software selects optimal SNPs to distinguish between any number of strains. SNPs can be selected for each chromosome or across the entire genome.

Genetic Mapping

Choose your two strains of interest and desired resolution, genome-wide SNP selection or a candidate region (Figure 2).

Selected candidate region SNPs are displayed in purple (Figure 3:A). Right-clicking on a specific SNP displays the SNP information and a link to the NCBI dbSNP database (Figure 3:B). Selected SNPs can be added to the SNP Cart, (Figure 3:A) and edited with the SNP Cart Editor (Figure 4).

Genetic Monitoring

Select discriminatory SNPs for each chromosome, or just the minimum number required, and include or exclude specific SNPs of interest (Figure 5). The software utilizes an algorithm similar to that used in haplotype tagging to select minimal marker subsets that distinguish between inbred strain haplotypes.
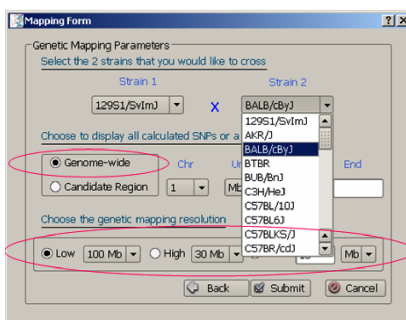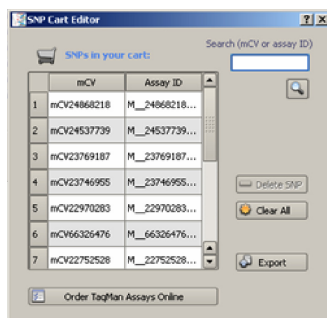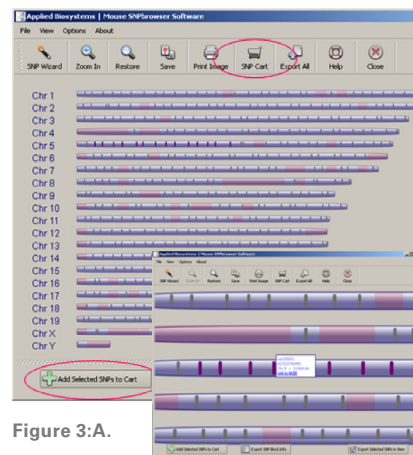
GENETIC MAPPING

Figure 2.

Figure 4.

Figure 3:A.

Figure 3:B.

GENETIC MONITORING

Figure 5.

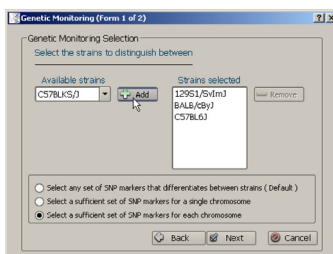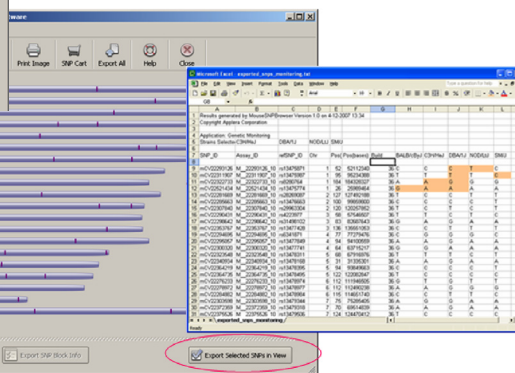**Figure 6.**

Export the SNPs to see genotypes in selected strains (Figure 6).

Simplified Online Ordering

Mouse SNPbrowser Software contains ~10,000 SNPs for use with TaqMan® SNP Genotyping and SNPlex™ Genotyping System Assays. It includes the most common strains investigated for use in nearly all mouse genotyping research

applications. Mouse SNPbrowser Software supports a direct link to the Applied Biosystems online store (**www. appliedbiosystems.com**) to easily facilitate ordering of desired SNP Assays.

For more information, and to get free Mouse SNPbrowser Software v1.0, visit **www.allsnps.com/mousesnpbrowser**

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