



Data Sheet

Affymetrix GeneChip® Mouse Mapping 5K SNP Kit

The Affymetrix GeneChip® Mouse Mapping 5K SNP Kit contains approximately 5,000 SNPs in a highly multiplexed assay¹⁻³. It allows individual researchers to perform high-resolution linkage mapping studies on mouse strains, resulting in approximately 1,500 informative markers for every cross of twenty common strains. The Mouse Mapping 5K SNP Kit is designed to work with the Affymetrix GeneChip® Scanner 3000 (with the appropriate upgrade).

Features and Benefits

- Complete coverage of the genome including regions underrepresented by standard panels of microsatellite marker panels, such as telomeres.
- Improved marker density and spacing (four to tenfold) over mapping that is based on microsatellite panels, at an equivalent price.
- Mapping resolution to a 1cM (~2Mb) region.
- Optimized design provides an off-the-shelf resource for genotyping crosses of the most common mouse strains.
- The Mouse Mapping 5K SNP Kit enables rapid, high-resolution genetic mapping which obviates the need for a cross-specific custom SNP assay design.

Panel Design

The SNPs used for this panel come from dbSNP, mapped to the mouse genome. The median number of informative markers is 1,500 SNPs across any two strains chosen from A/J, AKR, 129S1/SvImJ, C57BL/6J, DBA/2J, C3H/HeJ, C57L/J, SJL, NOD, BALB/c, BTBR, NZB/BINJ, CBA/Ca, CAST/Ei, PWD/Ph, CZECHII/Ei, NZO/HIJ, PERC/Ei, WSB/Ei, C3H/HeN, C57BL/10, DBA/1, and FVB/NJ. The number of informa-

tive markers is lower for crosses between closely related strains (such as C57BL/6J and C57BL/10J) and higher for more distantly related strains.

Coverage and Performance

The SNP selection algorithm used for the panel design is optimized for the maximum number of informative markers between common mouse strains and minimal interval size by spacing markers equally across the mouse genome. Approximately 5,500 SNPs were selected from an initial set of 565,062 SNPs present in dbSNP build 121 and mapped in mouse genome build 32. Figure 1 shows the genome coverage of the Mouse Mapping 5K SNP Kit. Figure two shows the interval distribution between selected crosses. For each SNP, the number of crosses for which the SNP is informative dictates the height of the markers shown.

Figure 1.

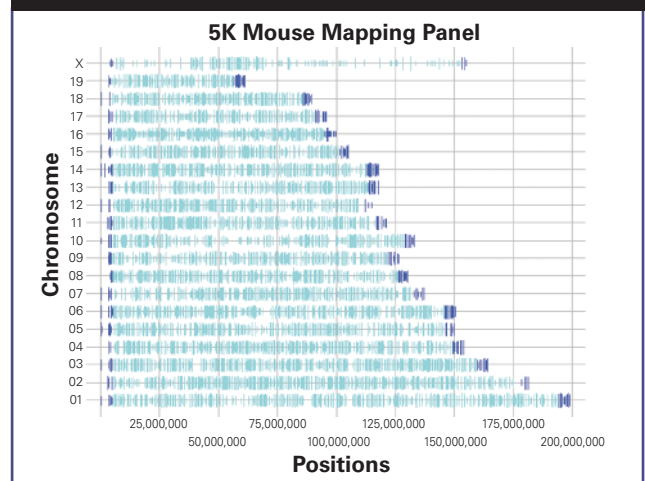
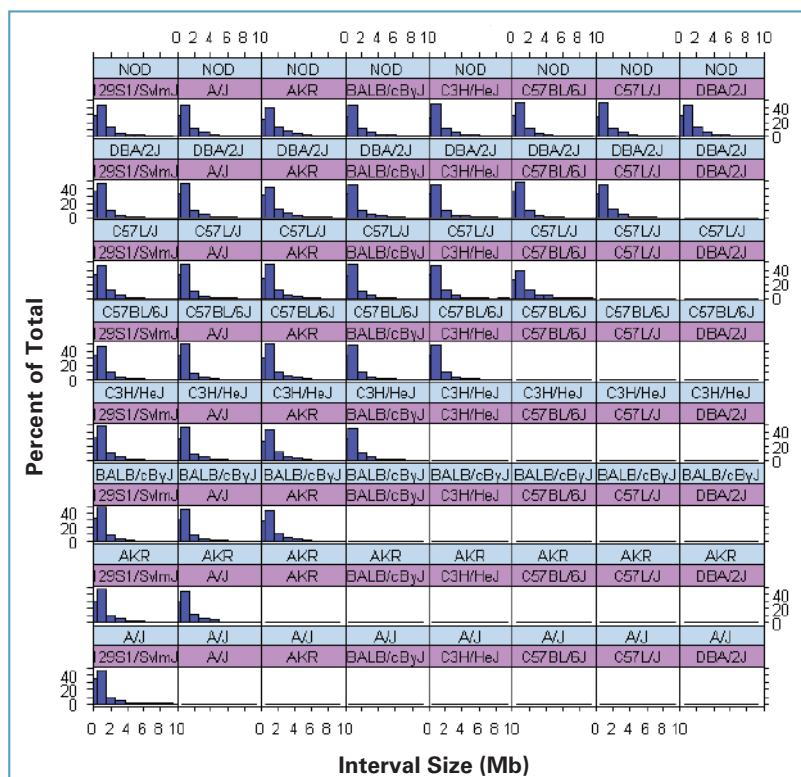


Figure 2.



Ordering Information

Affymetrix GeneChip® Mouse Mapping 5K SNP Kit

900869 Kit contains enough reagents to process a total of 24 assays (including one control)

Affymetrix GeneChip® Universal 5K Tag Array

900659 Arrays have approximately 5K features on each array that can detect 5K SNPs using the Affymetrix GeneChip DNA Analysis System incorporating MIP technology. (six pack)

900660 (96 pack)

To Order

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REFERENCES

1. Hardenbol, P., et al. Highly multiplexed molecular inversion probe genotyping: Over 10,000 targeted SNPs genotyped in a single tube assay. *Genome Research* **15**:269-275 (2005).
2. Hardenbol, P., et al. Multiplexing Genotyping with Sequenced Tagged Molecular Inversion Probes. *Nature Biotechnology* **21**:6 (June 2003).
3. Jain, M., et al. Benchtop Genotyping. *Genetic Engineering News* **24**:18 (10/15/2004).

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