

Custom and Catalog Genotyping with the Affymetrix® GeneChip® Scanner 3000 Targeted Genotyping System

Scalable

Innovative

Flexible



■ ■ An innovative, highly multiplexed assay ■ ■ for use with your current GeneChip® System

The GeneChip® Scanner 3000 Targeted Genotyping System enables you to perform hypothesis-driven association studies using a targeted approach. This next-generation tool can genotype specific sets of targeted SNPs and enables you to uncover the basis of complex human and animal genetics.

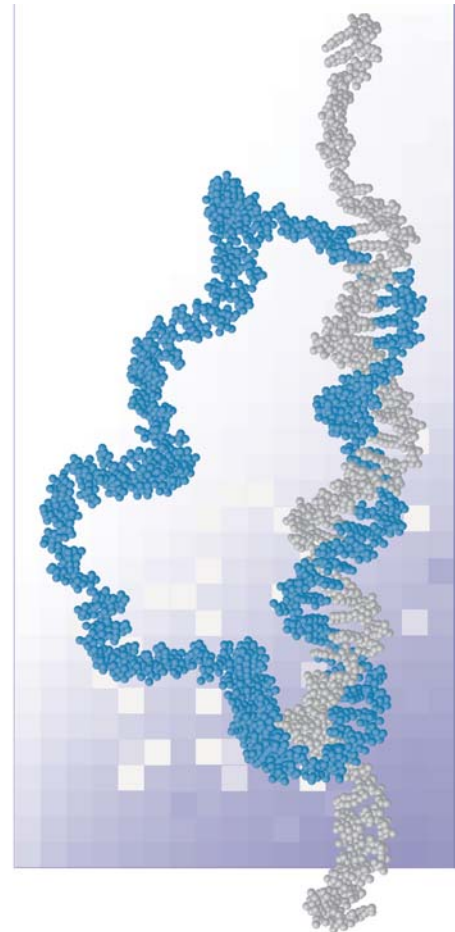
Combined with the GeneChip Scanner 3000 Targeted Genotyping System, the targeted genotyping assay addresses these challenges by offering:

- Flexible multiplexing from 3,000 to 20,000 SNPs per individual assay
- Industry-leading conversion rates from database SNPs to functioning assays
- Targeted and specific high-value SNP content

The GeneChip Scanner 3000 Targeted Genotyping System uses a single workflow to enable a broad range of multiplexing, irrespective of the multiplex level chosen.

■ ■ Features and Benefits

- Molecular Inversion Probe (MIP) Technology enables a broad range of multiplexing. Get higher throughput with low capital investment.
- A single workflow for all multiplex panels ranging from 3,000 to 20,000 SNPs.
- Detection on proven Affymetrix GeneChip® technology that is in widespread use in a variety of application areas. Easy path to upgrade your current system to include targeted genotyping.
- Highest conversion rates available for custom genotyping (typically greater than 90 percent for conversion of SNPs retained in the Human HapMap database). Get more of the SNPs you need in your assay panel.
- Comprehensive targeted genotyping software package allows for easy management of sample and project information and the integration of genotype calls.
- Catalog products available for more focused studies, in human disease and agricultural research.



Tools to take you as far as your vision.®

Performance

The GeneChip® Scanner 3000 Targeted Genotyping System (incorporating MIP technology) provides multiplexed assays designed for your custom SNPs, publicly available SNPs or the opportunity to choose from a menu of standard catalog products directed at hypothesis-driven human disease and agriculture research applications. **Additionally, you have the flexibility to run mapping, resequencing, gene expression and targeted genotyping applications using one platform. This high-performing system** will provide you with a means of generating quality data, giving you the information you need to **solve complex research problems.**

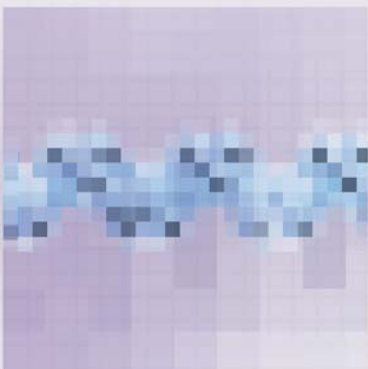
Key Specifications

Metric	Specification
Conversion Rate	> 80% custom panels (typically > 90%)
Accuracy	> 99.25% (custom and application-specific panels)
Data Completeness	> 98.0% (application-specific panels) > 97.0% (custom panels)
Repeatability	> 99.25% (custom and application-specific panels)
Throughput	48 samples per day (1 million genotypes/day using a 20K SNP panel)
Custom Assay Delivery Time	8-10 weeks (depends on panel size)*
Catalog Product Delivery Time	4-6 weeks

* Custom assay delivery time is dependent on Affymetrix production schedule at time of order placement. Actual delivery time can be confirmed upon request.

System Components

- **Scanner:** GeneChip® Scanner 3000 7G 4C
- **Reagent Kits:** GeneChip® SNP Kits, Standard and Custom
- **Arrays:** GeneChip® Universal 3K, 5K, 10K and 25K
- **Computer Workstations:** Instrument Control, Pre-amp lab, Post-amp lab
- **Software:** GeneChip® Targeted Genotyping Analysis Software and GeneChip Operating Software
- **Fluidics:** GeneChip® Fluidics Station 450 with necessary script
- **Hybridization Oven:** GeneChip® Hybridization Oven 640 (no modifications or changes)



Flexibility

By choosing your own SNPs to be converted into a custom genotyping kit, you get the coverage and information that you need. You can also choose from a growing menu of standard catalog products, including those that allow you to focus on non-synonymous public SNPs that code for changes in protein sequences, study a particular model organism or use SNPs known to be associated with a particular human disease state.

Reagent and Array Overview

- Custom reagent kits are available in 3K to 20K SNP configurations.
- Each custom assay panel is run against a standard set of samples for quality control purposes.
- Universal Tag Arrays are available in 3K, 5K, 10K and 25K configurations and contain novel, bioinformatically designed tag sequences that result in minimal potential for cross-hybridization.
- Due to the universal nature of the tags, custom SNP assays do not require redesign or creation of custom GeneChip Arrays.

Catalog Products for Hypothesis-driven Human Disease and Agriculture Research Markers

- The Human 20K cSNP Kit includes a majority of the genes (~11,000) with validated (double-hit) non-synonymous public SNPs that code for changes in protein sequence. Most major drug target gene families are represented.
- The Human Immune-Inflammation 9K SNP Kit contains selected informative markers for genes (~1,000) that are thought to be involved in the immune and inflammation response. The panel contains non-synonymous and haplotype tagging SNPs.
- The Human MALD 3K SNP Kit is designed for mapping by admixture linkage disequilibrium, providing a method for localizing genes that cause disease prevalent in admixed ethnic populations.
- The Bovine Mapping 10K SNP Kit allows you to perform linkage mapping studies on bovine breeds (Angus, Brahmin, Hereford, Holstein, Jersey, and Limousin).
- The Bovine Mapping 25K SNP Kit allows you to perform linkage and QTC of beef and dairy bovine breeds.
- The Mouse Mapping 5K SNP Kit is designed to result in 1,500 informative markers for every cross of 23 common mouse strains and is more efficient relative to conventionally used microsatellite techniques.
- The Rat Mapping 5K SNP Kit allows you to perform linkage mapping studies on rat strains.



Expanding Your Options

Upgrade your current GeneChip® System, or add capacity with the new Affymetrix GeneChip Scanner 3000 Targeted Genotyping System

- Easily add the capability to run the targeted genotyping assay that incorporates MIP technology with a field upgrade.
- Expand your range of applications while comfortably achieving the throughput your studies demand.
- Get the information you need in a timely and cost-effective manner through one integrated system that delivers optimal performance.

Targeted Genotyping Software Highlights

The comprehensive TG software package enables you to set up and track the progress of experiments, analyze raw data and generate genotypes based on a set of QC metrics, which may be user defined.

- Enter sample-related information as part of initial project setup.
- Barcode reader allows plates to be tracked and facilitates the integration of sample information and genotype calls.
- Clustering algorithms enable genotype calling from raw array data. (Moorhead, M. *et al.* EJHG 2006 #14 pp 207-215)
- User-programmable clustering parameters enable you to tailor the calling metrics to a given study, if desired.
- Data files in tab-delimited format for easy export into third-party analysis tools or your own software.

Be the 1

The GeneChip® Scanner 3000 Targeted Genotyping System allows you to perform successful, hypothesis-driven association studies by offering flexible multiplexing from 3,000 to 20,000 SNPs per individual assay. Industry-leading conversion rates from database SNPs to functioning assays results in high-value fixed assays. Whether you choose an easy path to upgrade your current GeneChip System or add capacity with a new Affymetrix GeneChip Scanner 3000 Targeted Genotyping System, you have the confidence of detection on proven GeneChip technology. The GeneChip Scanner 3000 Targeted Genotyping System allows you to get the results you need, and enables you to **Be the 1** to turn yesterday's vision into tomorrow's discovery.



AFFYMETRIX, INC.

3420 Central Expressway
Santa Clara, CA 95051 USA
Tel: 1-888-DNA-CHIP (1-888-362-2447)
Fax: 1-408-731-5441
sales@affymetrix.com
support@affymetrix.com

AFFYMETRIX UK Ltd

Voyager, Mercury Park,
Wycombe Lane, Wooburn Green,
High Wycombe HP10 0HH
United Kingdom
UK and Others Tel: +44 (0) 1628 552550
France Tel: 0800919505
Germany Tel: 01803001334
Fax: +44 (0) 1628 552585
saleseurope@affymetrix.com
supporteurope@affymetrix.com

AFFYMETRIX JAPAN K.K.

Mita NN Bldg., 16 F
4-1-23 Shiba, Minato-ku,
Tokyo 108-0014 Japan
Tel: +81-(0)3-5730-8200
Fax: +81-(0)3-5730-8201
salesjapan@affymetrix.com
supportjapan@affymetrix.com

www.affymetrix.com Please visit our web site for international distributor contact information.

Compliant with directive 2002/96/EC (WEEE)

Part Number 701894 Rev. 4

For research use only. Not for use in diagnostic procedures.

©2005-2006 Affymetrix, Inc. All rights reserved. Affymetrix, the Affymetrix logo, GeneChip, and 'Tools to take you as far as your vision' are registered trademarks, and 'The Way Ahead' is a trademark, owned or used by Affymetrix, Inc.