The first and only fully-integrated microarray instrument

for hands-free array processing

GeneTitan® Instrument

Transform your lab with a GeneTitan Instrument and experience the unparalleled power of streamlining array processing for discovery, exploration, and screening. Both the GeneTitan Instrument for expression applications and the GeneTitan® Multi-Channel (MC) Instrument for expression and genotyping seamlessly integrate hybridization, washing, and imaging in a single instrument to provide hands-free array processing—whether you are performing basic or applied research.

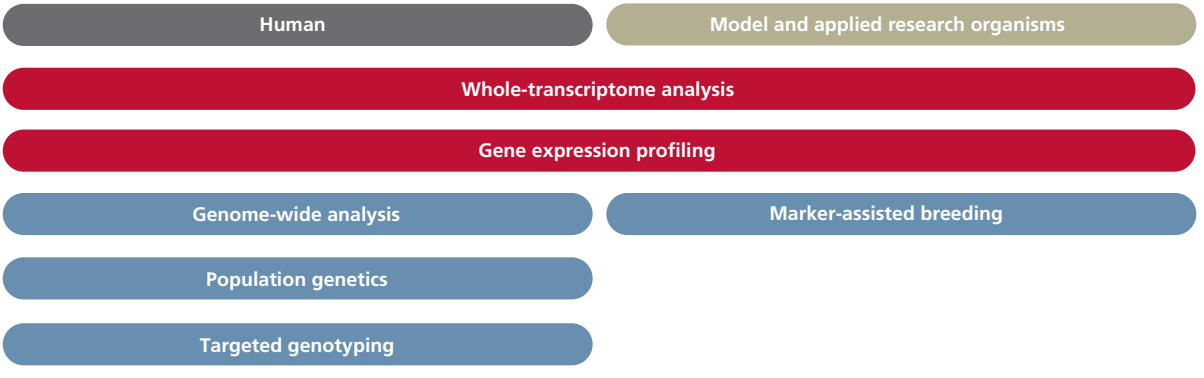
- **Scalable** – Meets both medium- and high-throughput needs, provides the fastest time to data, and requires the fewest resources.
- **Efficient** – Condenses hands-on processing time to as little as 30 minutes, images an array in less than five minutes, and operates unattended overnight.
- **Flexible** – Supports gene expression and genotyping studies on multi-format array plates.
- **Accurate** – Delivers high-quality, consistent data every time by processing multiple samples under identical conditions.
- **Adaptable** – Creates flexible workflows and sample registration via the Affymetrix® GeneChip® Command Console® Software (AGCC).

The flexibility you want—multiple formats and customized solutions

for gene expression and genotyping studies

GeneTitan® Instruments together with industry-recognized Affymetrix® High-Throughput (HT) Array Plates provide the first hands-free, automated solution for microarray processing. With a broad selection of array plate formats, you can easily transition from discoveries through genome-wide SNP genotyping, to comprehensive explorations of gene expression profiles relating to important biological phenotypes, such as disease or drug response.

Pre-designed and customizable array plates, shown in 24- and 96-format, give you the highest productivity with a scalable throughput



GeneTitan Instruments together with Affymetrix Array Plates enable a wide menu of applications in gene expression and genotyping studies

Multiple formats

Affymetrix Expression Array Plates
Ideal for medium- to high-throughput labs; available in 16-, 24-, and 96-sample formats

Axiom® Genotyping Array Plates
Available in multiple formats, able to process 24 to 96 samples per plate

Scalable throughput

Process between 16 and 192 samples per day
Lets you scale up throughput without adding manpower or instrumentation

Achieve high productivity
Array plates condense hand-on processing time, minimize user intervention, and are processed unattended overnight

Customized solutions

MyGeneChip™ Expression Array Plates
Customized solutions for human and model and applied research organisms

Axiom® myDesign™ Genotyping Array Plates
Genomic coverage tailored for human and agricultural populations, focusing on the SNPs of interest to you

Automated array processing
for a hands-free workflow

A GeneTitan® Instrument takes your experiments from prepared samples to primary analysis without user intervention. And unlike any other system currently on the market, the instrument automates all array processing and plate transfers for a fully hands-free workflow.

"Hands-free" GeneTitan Instruments deliver

- Lower labor and array costs
- Highest data consistency
- More time with biology—not the technology

Efficient

The instrument condenses eight hours of hands-on time into as little as 30 minutes for any microarray platform, and multiplexes samples with minimal operator intervention, reducing labor needs and freeing up skilled lab personnel for other priorities.

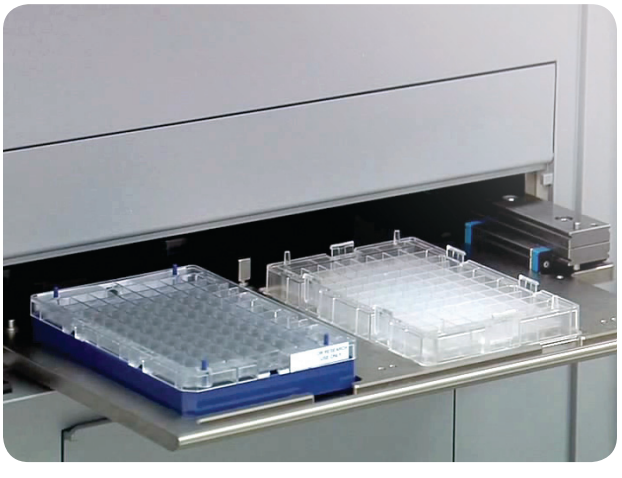
Highest productivity

The Instrument operates unattended overnight, providing up to 10 times the productivity of other platforms. And, the unique degree of hands-free automation means superior reproducibility and increased confidence in your results.

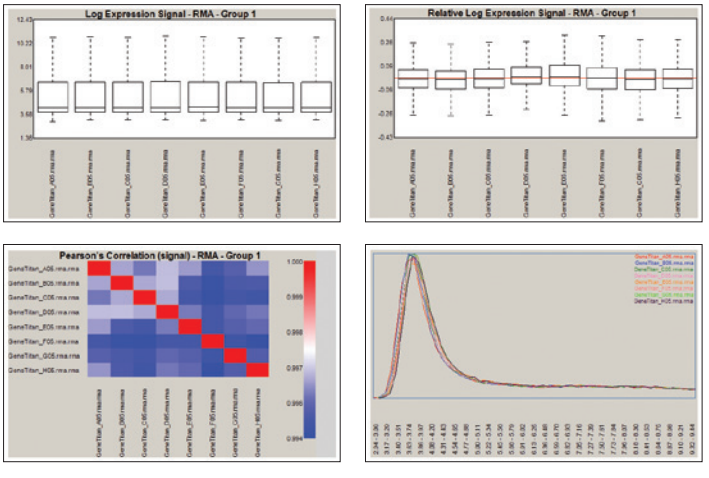
Deliver high-quality, consistent data every time by processing multiple samples under identical conditions.

Set up – Load – Go

1. Load consumables
2. Press Start
3. View primary analysis



A single operation for hands-free, unattended array processing. The user simply loads the arrays, prepared samples, and reagents into the instrument



Primary analysis can be completed automatically to rapidly assess the quality of each experimental study

Genotyping solutions

unmatched accuracy, productivity, and customization, with a single assay

The Axiom® Genotyping Solution includes the GeneTitan® MC Instrument and offers a fully automated workflow for a broad selection of applications including genome-wide association studies (GWAS), replication studies, candidate-gene association, and targeted genotyping for human disease research and agricultural genomics.

Genotyping on the GeneTitan MC Instrument enables

- Fastest time to data
- A single scientist to process thousands of samples
- High control over genotyping production

Reduce complexity

The GeneTitan MC Instrument is the only platform that lets you generate robust and reliable genotypes with minimal user intervention while reducing costs and processing complexity. The Axiom Genotyping Solution includes Affymetrix-supported manual or automated target prep methods and automation-friendly reagent kits for preparing samples to process in the instrument.

Scalable and customized solutions

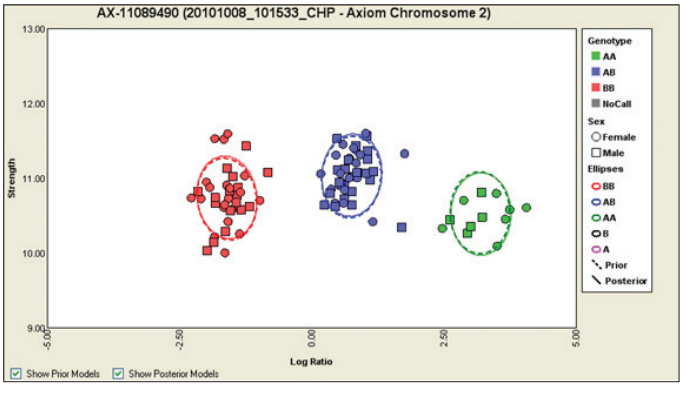
Choose from a suite of pre-designed population-specific Axiom® Genome-Wide Array Plates for genetic mapping. Or, design your own custom Axiom® myDesign™ Array Plate with 1,500 to 2.6 million SNPs by choosing from our database of 11 million validated genomic markers and your own proprietary target markers from sequencing initiatives.

Target prep → Hybridization → Ligation → Imaging

The GeneTitan MC Instrument enables one bench scientist to manage a throughput of more than 760 samples per week with less than 2.5 hours of hands-on time per 96 samples.

Flexible workflow

Integrate Microsoft® Windows GUI-based Genotyping Console™ Software (GTC) or automation-friendly command line-based Affymetrix Power Tools (APT) for completing the primary genotyping analysis. The flexible software workflow with simplified data management allows you to easily share your results and seamlessly integrate with third-party software packages.



The GeneTitan MC instrument generates robust and reliable genotypes that can be visualized using the SNP Cluster graph through a user-friendly graphical interface

Gene expression

discovery, validation, and screening, with a single instrument

With either the GeneTitan® Instrument or the GeneTitan® MC Instrument you will be able to streamline array processing for whole-transcriptome or 3′ IVT gene expression analysis in human and model and applied research organisms. Regardless of your throughput requirements, you will rapidly identify and validate gene expression profiles and discover biologically relevant pathways.

Gene expression on both GeneTitan Instruments offers

- Consistently reproducible data
- Highest accuracy in expression analysis
- More confidence in your results

Latest content

Choose from the most popular and widely cited microarrays for whole-transcriptome or classical 3′ based designs in a convenient medium- to high-throughput format for low-cost expression profiling of human, mouse, and rat. You may also customize your array content for any available annotated genome, focus region, or control sequence using our MyGeneChip™ Custom Program.

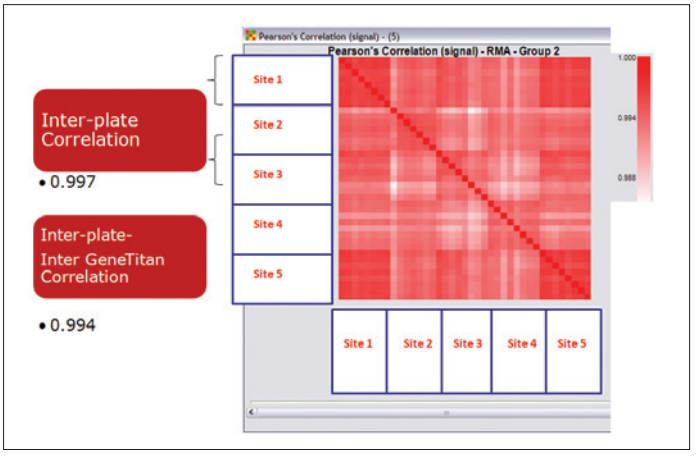
Ease of use

Automation-friendly reagent kits easily integrate with upfront Affymetrix-supported automated target prep methods. Alternately, reagent kits designed for the manual assay give you the flexibility of preparing samples for lower throughput.

GeneTitan Instruments generate highly reproducible and concordant data and can detect changes in gene expression at or above the 1.5 pM concentration.

Automatic answers

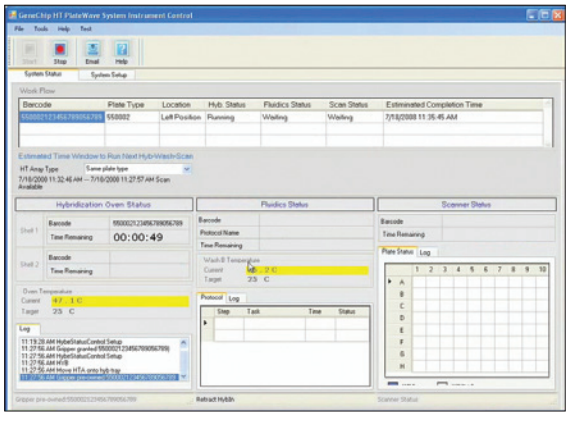
Use Expression Console™ Software or any of the GeneChip-compatible™ Partner Solutions for probe set summarization and gene-level analysis. Follow up with NetAffx® analysis to correlate array results with array design and annotation information. Alternately, you may build automated primary analysis pipelines for a completely automated workflow, using Affymetrix Power Tools Software and the data transfer tools provided with the instrument control software.



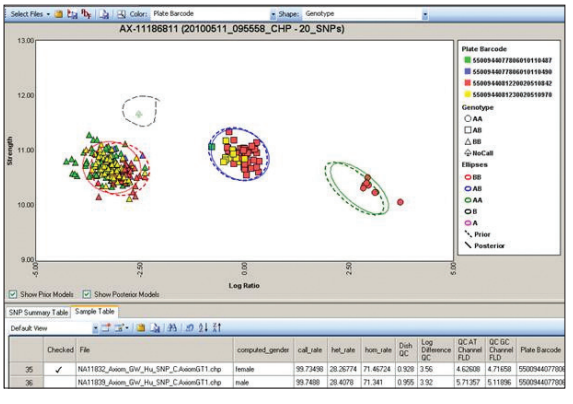
Results of the analysis of 3′ IVT expression data demonstrate the ability to achieve consistently reproducible data

Streamlined software
and easy-to-interpret results

GeneTitan® Instruments come installed with the popular, file-based Affymetrix® GeneChip® Command Console® Software (AGCC) for instrument control. The primary analysis can be completed using the Affymetrix® Expression Console™ Software for gene expression profiling or the Affymetrix® Genotyping Console™ Software (GTC) for genotyping analysis.



The AGCC user interface enables you to monitor and track all instrument activities from a single view



The SNP cluster graph in Genotyping Console Software is one of many ways to look at genotyping calls and quality control metrics

Affymetrix GeneChip Command Console Software (AGCC)

- Enhances hands-free processing with wizard interfaces and workflow monitoring.
- Easy data sharing and scalable data management with a convenient file-based format.
- Includes remote notification of instrument status for walk-away automation.
- Enables seamless integration with other applications for further quality control, statistical, pattern recognition, and biological pathway analysis.

Affymetrix Expression Console Software

- Customize your data summaries for QC and primary analysis results.
- Rapidly assess the quality of each experimental study with tabular and graphical reports.
- Compare data in a statistically significant way with a comprehensive set of visualization tools.

Affymetrix Genotyping Console Software (GTC)

- Conduct primary data analysis using the new Axiom® Genotyping Algorithm for automated allele calling and quality assessment of called genotypes.
- Intuitive and easy to use menu interface for rapid primary analysis.
- Generate genotyping calls and quality control metrics.

NetAffx® Analysis Center

- Securely access information about probe sets of interest from more than 10 public domain databases.
- Use the Axiom® Design Center to quickly select and configure a custom Axiom® myDesign™ Array for your genotyping studies.

Genotyping and expression solutions
available on GeneTitan® Instruments

Applications	Products	Analysis software
GWAS and replication*	▪ Axiom® Genome-Wide Arrays ▪ Axiom® myDesign™ Custom Arrays	▪ Genotyping Console™ Software ▪ Affymetrix Power Tools
Fine mapping and candidate genes*	▪ Axiom® myDesign™ Targeted Genotyping Arrays	
Haplotype structure*	▪ Axiom® Genomic Screening Service	
Agricultural genomics*	▪ Axiom® Genome-Wide Bovine Array ▪ Axiom® myDesign™ Custom Arrays	
3′ IVT expression	▪ PrimeView™ Human Gene Expression Array ▪ HT HG-U133+ PM Array Plate ▪ HT Human Genome U133 Array Plate Set ▪ HT MG-430 PM Array Plate ▪ HT Mouse Genome 430 Array Plate Set ▪ HT RG-230 PM Array Plate ▪ HT Rat Focus Array Plate ▪ Model and applied research organism array plates (ordered through the MyGeneChip™ Custom Arrays Program) ▪ MyGeneChip™ Custom Arrays	▪ Expression Console™ Software ▪ Affymetrix Power Tools ▪ GeneChip-compatible™ Software
Whole-transcriptome expression	▪ Human Gene 1.1 ST Array Plate ▪ Mouse Gene 1.1 ST Array Plate ▪ Rat Gene 1.1 ST Array Plate ▪ Model and applied research organism array plates ▪ MyGeneChip™ Custom Arrays	

*GeneTitan® MC Instrument only