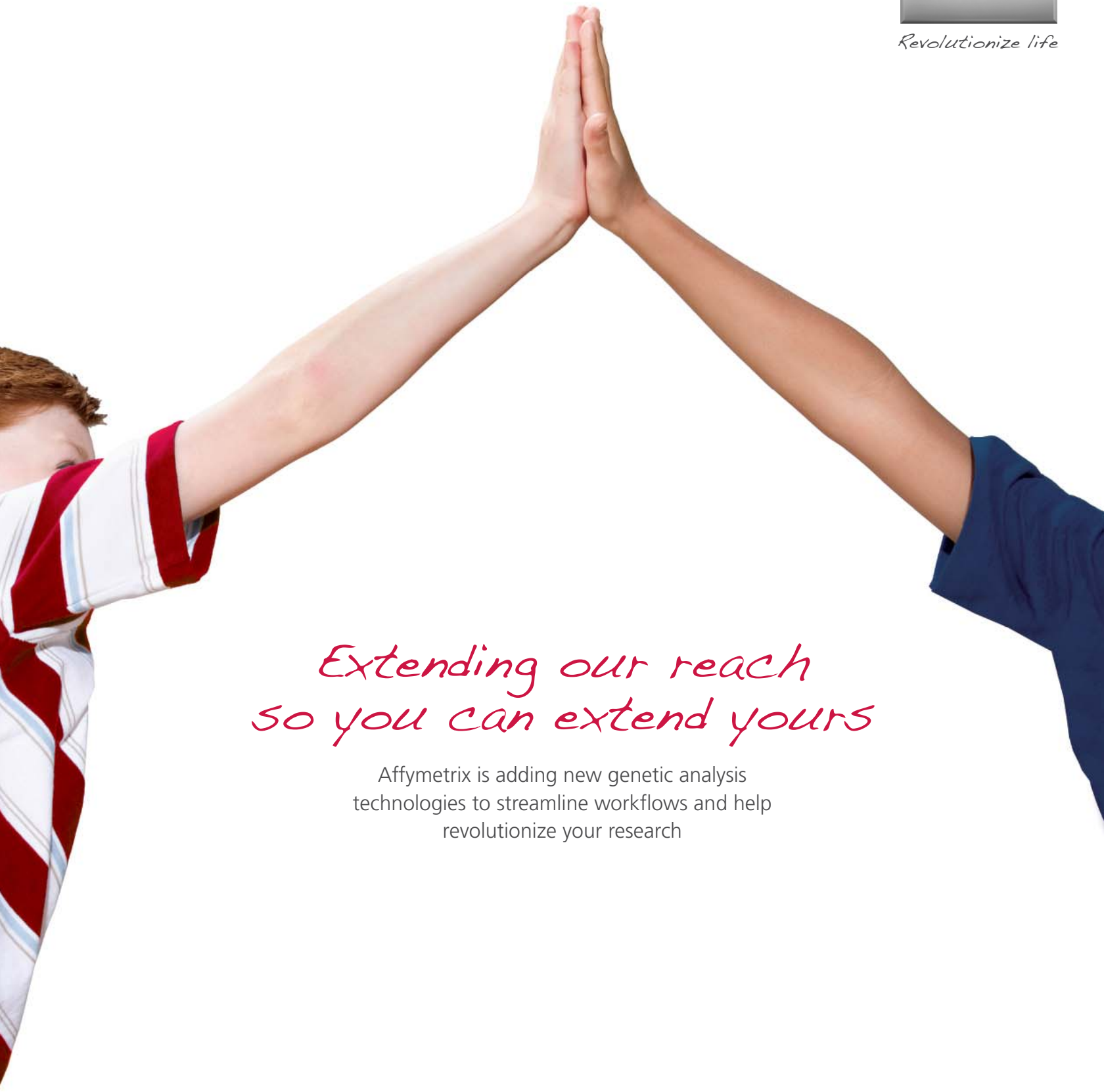
Affymetrix®

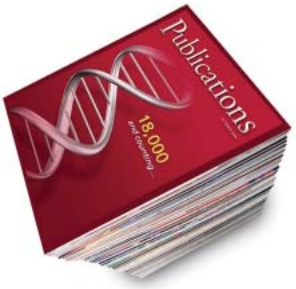
Revolutionize life



Extending our reach so you can extend yours

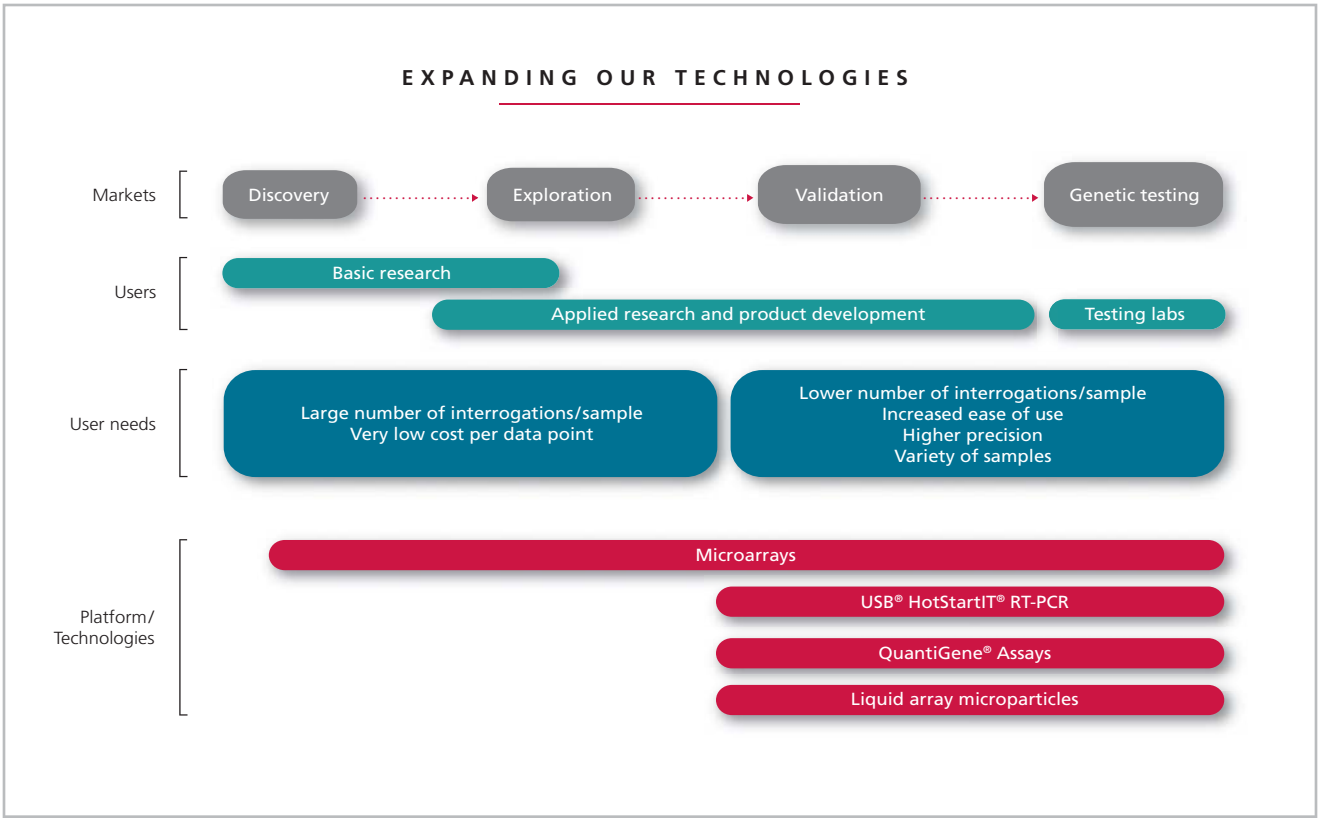
Affymetrix is adding new genetic analysis technologies to streamline workflows and help revolutionize your research

Extending our reach...



After pioneering the microarray technology adopted by hundreds of researchers in academia, pharmaceutical, and biotechnology companies, and with **more than 18,000 published papers** referencing our technology, Affymetrix is evolving into a provider of scalable, innovative genomic analysis tools for discovery, exploration, validation, and genetic testing. The acquisitions of Panomics and USB bring high-throughput, low- to mid-plex assays, and high-quality, cost-effective reagents that enable a complete solution for genome-wide to single-gene analyses. Today Affymetrix offers high-quality products for:

- Whole-genome to single-gene analysis for expression profiling studies
- Genotyping assays for genome-wide association and copy number variation studies
- Chromosomal structural variation analysis for cytogenetics studies
- Drug metabolism and toxicity analysis for pharmacogenomics studies
- Custom resequencing assays for large-scale targeted studies
- miRNA, transcript mapping, and methylation products for gene regulation studies
- Protein assays for pathway analysis studies
- Molecular biology reagents and kits



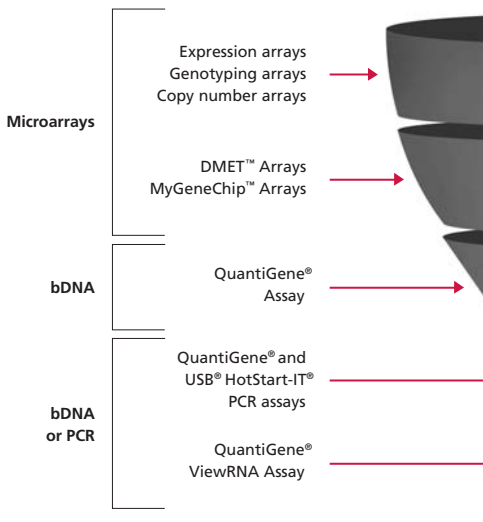
...with more speed, coverage, and scalability

We are expanding our core focus in gene expression, targeted genotyping, and whole-genome association studies by adding new arrays, assays, reagents, and flexible formats to improve efficiency and reliability of results.

Whether you're interrogating entire genomes or individual molecules, RNA or DNA, 100,000 or 10 samples, Affymetrix offers new solutions for every step in the genetic discovery, qualification, and validation continuum. Key areas of innovation include:

GeneTitan™ System	Improves efficiency, provides greater scalability, and reduces overall cost of ownership with hands-free automated microarray processing
Whole-transcript expression solutions	Detects changes other arrays can't by providing probes across the entire length of the transcript for annotated and predicted genes
Next-generation genotyping solution	New technologies are based on a scalable format and novel content so you can benefit from the next wave of SNP information
Affymetrix® Cytogenetics Research Solution	Designed for fast and reliable detection of known and novel chromosome aberrations
DMET™ Plus Premier products	Standardizes metabolism studies and enables improved drug safety and proper dosing
Affymetrix miRNA Solution	Provides the most comprehensive miRNA coverage for multiple organisms on a single array

FROM ONE MILLION GENOMIC



ENABLING COMPLETE SOLUTIONS

Microarrays and assay reagents

GeneTitan™ Instrument

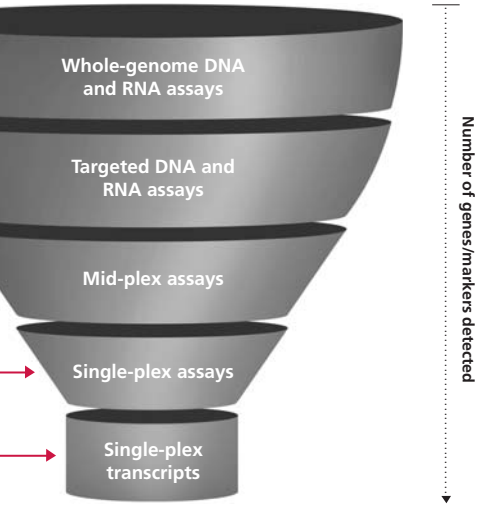
Analysis software

...by delivering quantitative biology

Panomics
Products from Affymetrix

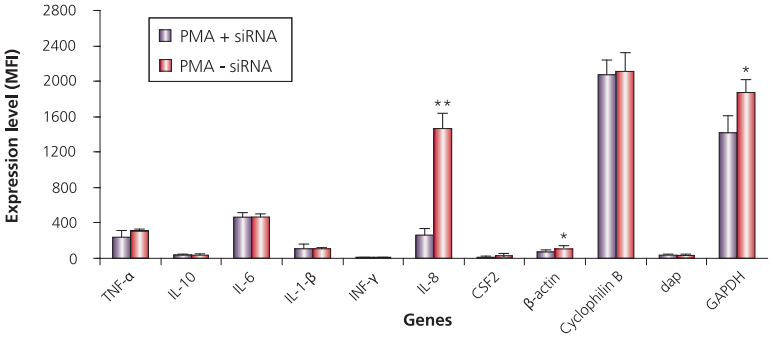
The acquisition of Panomics allows us to offer quantitative assays in the low- to mid-plex range for validating gene and protein expression data. These automatable, cost-effective assays are available in flexible formats and provide greater accuracy and precision compared to traditional PCR amplification methods. The Panomics QuantiGene®, QuantiGene® ViewRNA, and Procarta® product lines support biomarker analysis, DNA copy number analysis, primary and secondary compound screening, in situ gene expression, microarray validation, and RNA interference knock-down studies.

PROBES TO ONE RNA MOLECULE



QuantiGene® Single- and Mid-plex Assays	QuantiGene® ViewRNA Assays	Procarta® Protein Assays
Measure >30 genes simultaneously using the Luminex® xMAP® platform	Detect single-copy mRNA in single cells	Detect multiple protein targets simultaneously
Eliminate the need for RNA or DNA isolation, PCR, and reverse transcription	Measure multiplex mRNA in situ for quantitative, contextual cell biology	Incorporate Luminex®-based technology for accurate and fast measurements
Make quantitative RNA or DNA measurements from animal or plant tissues, whole blood, formalin-fixed, paraffin-embedded sections, and cultured cells	Enable a simple, automatable workflow on 96- and 384-well formats	Optimized for human, mouse, rat, non-human primate, and porcine samples
Monitor the smallest differences in gene expression	Ideal alternative to traditional reporter gene assays, perfect for RNAi and biomarker applications	Accepts serum, plasma, tissue lysates, bodily fluids, and cell supernatants as sample types

QUANTIGENE® PLEX ASSAY



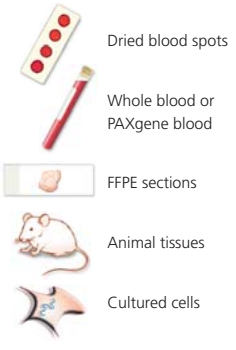
This figure shows an 11-plex gene expression panel of PMA-induced and IL-8 siRNA-transfected HeLa cells (4-hour). PMA-induced IL-8 expression was knocked down 80 percent by transfection, while the other cytokine mRNAs and the housekeeping gene cyclophilin b were not significantly affected. The expression of the housekeeping genes beta actin and GAPDH were significantly affected by the PMA and/or siRNA transfection conditions, illustrating that cyclophilin b was the ideal housekeeping gene for this experiment.

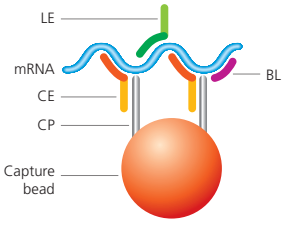
...by simplifying your workflow

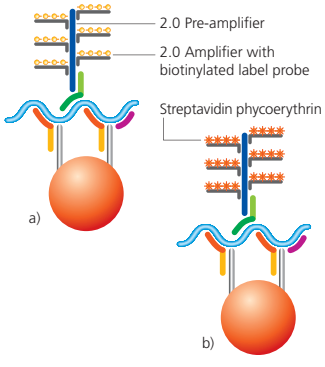
Panomics
Products from Affymetrix

How a Panomics® QuantiGene® Plex Assay works

QuantiGene Plex 2.0 Assays combine branched DNA signal amplification technology and xMAP® (multi-analyte profiling) beads to enable simultaneous direct quantification of multiple RNA or DNA targets from a variety of sample types. bDNA technology is a sandwich nucleic acid hybridization assay that provides a unique approach to RNA detection and quantification by amplifying the reporter signal rather than the sequence. By measuring the RNA at the sample source, the assay avoids variations or errors inherent to extraction and amplification of target sequences.







Step 1: Release target RNA	Step 2: Target RNA capture	Step 3: Signal amplification	Step 4: Detection
Cells are lysed to release RNA.	Specific mRNA transcripts are captured to their respective beads through a capture extender (CE) capture probe (CP) interaction during an overnight hybridization at 54°C.	a) Sequential hybridization of the 2.0 pre-amplifier, 2.0 amplifier and biotinylated label probe, respectively, for an hour at 50°C. b) Binding with streptavidin conjugated phycoerythrin (SAPE) at room temperature for 30 minutes.	The sample is analyzed on a Luminex* instrument. The level of SAPE fluorescence is proportional to the amount of mRNA transcript captured by the bead. *Bio-Plex suspension array system or other Luminex-based array systems.

Extending our reach by offering high-quality, cost-effective reagents

usb
Products from Affymetrix

Our USB® product line provides a broad range of high-quality, proprietary molecular biology and detergent reagents. USB HotStart-IT qPCR master mixes provide consistent results for validating data obtained from microarray studies. Other premium products include reagents for DNA amplification, cloning, mutagenesis, RNA analysis, and membrane protein analysis.

Revolutionize your research

Affymetrix has invested heavily in strategic partnerships with leading academic researchers, scientific organizations, and pharmaceutical, biotechnology, and diagnostic companies to develop cutting-edge technologies and provide seamless genetic analysis solutions.

We have contributed significantly to the formation of today's genetic analysis markets and remain committed to pursuing scientific and technological innovations that will continue to drive the genomics revolution. We have a single-minded vision: to help all individuals benefit from understanding their own DNA.

Contact your local sales representative or visit us online at www.affymetrix.com and let us help you revolutionize your research.

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USB® Products Tel: 1-800-321-9322 www.usbweb.com

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