Open to anything

The Agilent DNA Microarray Platform

Agilent Technologies

Where Are You Taking Your Research?

Genomics technologies are evolving. What are you searching for? What tools do you need to help you get there?

Powered by microarray technology, it has become routine to conduct gene expression studies on a genome-wide scale, tremendously expanding our understanding of gene function. Recent developments in microarray technology now make it possible to dramatically extend the boundaries of this exploration. New applications, including oligonucleotide array-based comparative genomic hybridization (Oligo aCGH), Chromatin Immunoprecipitation on chip (ChIP-on-chip), and splice variant analysis are enabling scientists to uncover previously hidden cause and effect relationships. These new capabilities represent a unique opportunity to develop a clearer picture than ever before of the interactions that drive complex biological systems.

But the quest for clarity presents novel scientific challenges.

Committing to a systems approach requires new capabilities. Your microarray platform needs to be open to emerging techniques and backed by an informatics system equipped to analyze and integrate data from a variety of applications. You need a system able to handle challenging samples, detect rare biological events and easily handle probe sets constructed for a variety of different genomes or specific gene regions of interest.

To fully explore this new genomics landscape, you need a microarray platform that can go wherever biology takes you.

ARE YOU A RESEARCHER ON A MISSION TO ELUCIDATE THE FUNCTION OF GENES WE DO NOT YET UNDERSTAND? THEN ZOOM IN CLOSE ? DO YOU NEED TOOLS THAT GO WHERE YOUR RESEARCH TAKES YOU? TO KEEP UP WITH

Open Up to New Possibilities in Genomics Research

The Agilent DNA microarray sits at the center of an integrated research platform designed to provide you with dynamic tools to perform research on your own terms.

Focused on sensitivity. Agilent's microarrays provide superior sensitivity, enabling a clear path from data to decisions. Our 60-mer oligonucleotide probes are synthesized *in situ,* resulting in highly reproducible features and six times the signal-to-noise ratio of other microarrays. With this level of performance, you can work with complex mixtures, analyze degraded samples and detect subtle yet significant biological changes with confidence.

Engineered for flexibility. Agilent's SurePrint inkjet technology prints oligonucleotides on the fly, enabling total control over array content with no compromise in cost, data quality or scalability. Combined with our web-based portal for custom array design, you now have the capability to move from idea to experiment within days. Dual-mode detection (one-color or two-color), multiple array formats, and bullet-proof protocols provide an unbeatable combination of tools to advance your research.

Designed for integration. From sample preparation to data analysis, the Agilent DNA Microarray Platform provides the components you'll need to implement an integrated experimental workflow. And Agilent's GeneSpring Software Platform opens new doors, enabling analysis, comparisons and visualization of data from multiple applications.

Introducing the Agilent DNA Microarray Platform: the Platform That's Open to Anything.

DO YOU DELVE INTO UNEXPLORED WORLDS ON A DAILY BASIS? DO YOU NEED THE ABILITY TO SCAN WIDE AND
YOU, INSTEAD OF DEFINING YOUR PATH? DO YOU NEED AN OPEN PLATFORM TO LET YOU CHART YOUR COURSE?

Choose from a Comprehensive Set of Genomic Applications

Select your application. Select your genome. Open up to possibilities.

Whether you are new to DNA microarray technology or an experienced microarray user investigating emerging techniques, the Agilent DNA Microarray Platform offers a broad set of applications designed to meet your specific research needs.

Gene Expression

- Explore gene transcription on a genome-wide basis across a variety of model systems. Whether conducting basic research, identifying new drug targets or discovering biomarkers, Agilent's microarrays provide superior performance.

Comparative Genomic Hybridization (oligo aCGH)

- Conduct high-resolution, genome-wide profiling of DNA copy number changes associated with cancer and other genetic diseases. Pinpoint more chromosomal aberrations using Agilent CGH arrays than with any other method.

Chromatin Immunoprecipitation (ChIP-on-chip)

- Elucidate the role that protein-DNA interactions play in processes such as transcription, replication, modification and repair. Explore these phenomena on a global scale with better signal-to-noise ratio than any other microarray platform.

Splice Variant Analysis

- Perform global interrogations of the transcriptome and identify alternative splice forms to uncover the role gene variants play in drug response and disease. Access catalog designs or create custom arrays for target families or specific gene sets.

DNA Methylation

- Discover and monitor epigenetic modifications known to play a fundamental role in many cellular processes. Agilent's CpG island arrays enable you to comprehensively study methylation changes across the genome.

MicroRNA

- Profile microRNA's (miRNA's) and explore the role they play in gene regulation. Agilent provides the most robust experimental protocols and frequent array design updates that reflect new discoveries in this emerging field.

The Agilent DNA

ARE YOU FOLLOWING A PROMISING GENE EXPRESSION STUDY RESULT? DOES YOUR RESEARCH REQUIRE AN OPEN
EXPRESSION, CHIP, AND DATA FROM OTHER APPLICATIONS? DO YOU WANT A PLATFORM THAT LETS YOU EXP

Consider the Workflow That's Open to Your Needs

Adopt an end-to-end solution. Integrate the components you need. Optimize your workflow.

To address the needs of an evolving scientific landscape, you need a microarray platform that is flexible and can be adapted to meet specific experimental needs. From sample preparation to microarray processing and genomic data analysis, Agilent provides a comprehensive set of tools to drive research in the direction you choose.

SAMPLE PREPARATION

Use the industry-leading Agilent 2100 Bioanalyzer to confirm nucleic acid sample quality in conjunction with amplification and labeling reagents designed to maximize workflow efficiency with minimal sample consumption.

Quality Control
Amplification & Labeling Kits

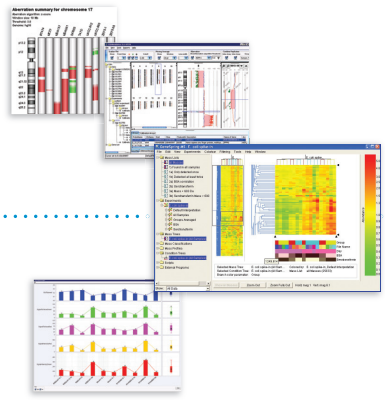
PROCESSING AND SCANNING

Take advantage of our integrated hybridization tools and award-winning scanning technology for seamless workflow integration.

Hybridization
Array Processing
Scanning

DATA ANALYSIS

The industry-standard GeneSpring Software Platform offers a broad range of sophisticated tools for analyzing and managing data derived from a diverse set of genomic platforms.



Analysis & Statistics
Visualization
Pathway Integration

Microarray Platform

I PLATFORM? ONE THAT YOU CAN OPTIMIZE AND PLUG INTO YOUR RESEARCH, RATHER THAN COMPROMISING? DO
LORE WHATEVER INTERESTING INFORMATION BIOLOGY THROWS YOUR WAY? ARE YOU A RESEARCHER ON A MI

See More with Extreme Sensitivity

Work with challenging samples. Detect low abundance transcripts. Make measurements across a larger dynamic range.

As microarrays move from the pure research environment to the clinical setting, new challenges are emerging. Sensitivity and quality become even more critical to elucidating gene function and deciding on the proper course for therapeutic intervention. The Agilent DNA Microarray Platform provides superior performance through a combination of superior sensitivity and improved dynamic range.

High-Quality 60-mer Oligos

- Dramatically increasing signal-to-noise ratios by enhancing binding interactions

Smart Probe Design

- Improving measurement accuracy and reducing requirements for probe replicates through a combination of empirical optimization and true biological validation

Compatibility with Challenging Samples

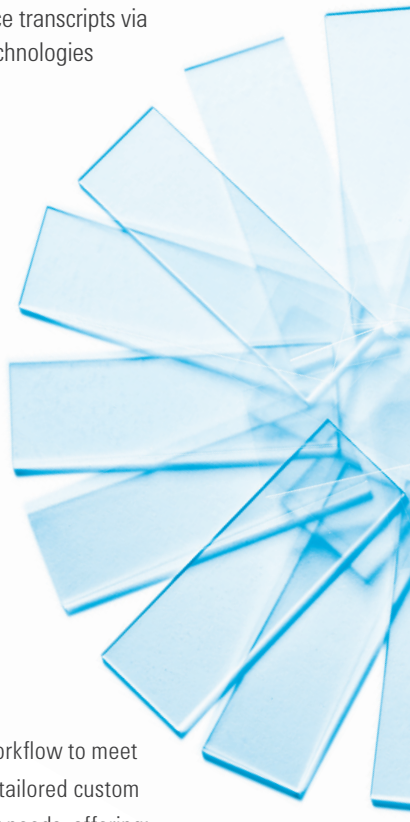
- Enabling analysis of fresh or frozen tissue, whole blood, and Formalin-Fixed Paraffin Embedded (FFPE) samples

Broad Linear Dynamic Range

- Allowing identification and characterization of both high- and low-abundance transcripts via novel microarray scanning technologies

Integral QC Analysis

- With spike-in controls and automatically generated QC reports for every sample on every array, ensuring confidence in results



Access Complete Design Flexibility

Search off the beaten path with custom arrays. Lower research costs through multiplexing. Optimize your experiments for greater confidence in your results.

Agilent provides you with a complete set of tools and resources, enabling you to customize the workflow to meet your specific research needs. From catalog microarrays for multiple genomes and applications to tailored custom designs and best-in-class technical support, Agilent's genomics platform is designed to meet your needs, offering:

SurePrint Inkjet Technology

- Enabling quick iteration of microarray designs through direct, *in situ* oligonucleotide synthesis

Multiplexed Arrays

- Providing experimental flexibility and economic efficiency by enabling simultaneous analysis of multiple samples on the same glass slide

eArray Online Array Design Tool

- Allowing custom array designs and easy access to genome annotations through an internet-based software portal

Custom Design Services

- Providing expert design assistance to create arrays optimized for your specific experimental needs

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ISSION TO ELUCIDATE THE FUNCTION OF GENES WE DO NOT YET UNDERSTAND? DO YOU DELVE INTO UNEXP

Contextualize Data with GeneSpring

Analyze and compare data from multiple applications. Collaborate with colleagues. Gain new perspectives on the data you already have.

The magnitude and complexity of genomic data sets make them difficult to interpret. An integrated informatics system is essential to capture, analyze and interpret results generated from various applications or stored in different locations. Whether you are working independently or in collaboration with other researchers, Agilent's industry-standard informatics tools provide the capabilities you need to find answers.

Robust Data Interpretation

- Identify differentially expressed genes or genetic aberrations with advanced statistical analysis algorithms and tools for pattern recognition and hypothesis testing

Comprehensive Visualization

- Providing an intuitive graphical user interface and an assortment of tools to visually convey important molecular trends

Integrated Data Analysis

- Enabling comprehensive synthesis of data generated from multiple platforms and applications or plug-ins from numerous software partners

Ready to Explore?

Find out more about the platform that's open to what you need.
Visit **www.OpenGenomics.com**, or contact an Agilent customer center at 1-800-227-9770.

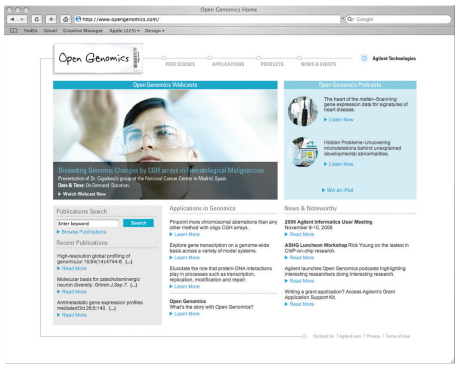
OF ALL OF YOUR GENOMICS DATA, BASED ON BIOLOGICAL SIGNIFICANCE? WANT TO TRIANGULATE ACGH, GENE
LORED WORLDS ON A DAILY BASIS? DO YOU NEED THE ABILITY TO SCAN WIDE AND THEN ZOOM IN CLOSE?

Chart a Path into the Future of Genomics

Investigate the latest in peer science. Discover the potential of Agilent's genomics tools. Connect and learn more today.

New genomics applications are enabling scientists to define innovative approaches to challenging research problems. Agilent is committed to providing you with novel tools to define this path, and connecting you with others asking similar questions.

To hear from researchers who are charting their own course in Genomics
visit www.OpenGenomics.com



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