

▶ ONE ARRAY UNLIMITED SOLUTIONS™

Genomic Expression's DATA™ (Digital Array Technology and Analysis) platform enjoys a cost and performance advantage over analog arrays. It can be directly applied in the biomarker discovery process without a priori assumptions regarding what markers to look for, and the same product can evolve into a companion diagnostic without any further laboratory development.

Compared to the current tools and competing technologies (analog arrays), the DATA™ platform can produce new information,

The current digital array product looks like a conventional gene chip – a piece of glass spotted with DNA, which can be read with a common scanner.

The DATA™ platform can analyze anything that contains DNA or RNA. Today applications range from diagnosing diseases to optimizing industrial production strains, analyzing the microbiome and providing personalized information for cosmetic and food.

▶ DIGITAL ARRAYS

DATA800™

DATA1000™

DATA1200™

DATA1400™

DATA1600™

# ▶ DATA™ Solutions

▶ BENEFITS

- Same platform from pre-clinic to market
- Identification of novel markers in clinic
- Intelligent target enrichment and filtering
- Unlimited numbers of markers on platform

▶ FEATURES

- miRNA profiling
- SNP detection
- Profiling of known and unknown microorganisms and mixtures of microorganisms
- Profiling of known and unknown RNA viruses in blood
- Profiling of host immune system
- Development of markers for pre-clinical models (cell or animal)
- Allel- and mutation-detection in PCR products
- DNA/RNA profiling of microorganisms
- Methylation scanning
- DNA/RNA profiling of human samples
- One-pass genome sequencing of microorganisms
- Methylation profiling of human samples
- One-pass genome sequencing of human samples

**Genomic Expression, Inc**

Phone: USA +1 (917) 267-8962  
Phone Europe: +45 (36) 96 73 39  
E-mail: [info@genomicexpression.com](mailto:info@genomicexpression.com)  
[www.genomicexpression.com](http://www.genomicexpression.com)

Genomic Expression USA  
69 Tieman Pl  
Suite 30  
New York, NY 10027

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## ▶ DATA™ SERVICE EXAMPLE

**Genomic Expression provides all of the services listed here utilizing it's own platform alone and in combination with state of the art within genomics tools:**

A service offering example for the DATA™ platform is described below:

- Discovery area: Cancer.
- Types of samples: Blood samples and biopsies from cancer patients.
- Types of data collected: Methylation profiles in combination with a search for new mutations in a select number of genes.
- Platform: DATA™.
- Analysis on leading bioinformatics platforms.
- Projected signal search result:: correlation of signals in blood with signals from tissue samples with patients' health status and responsiveness to specific cancer treatment.

## ▶ DATA™ DIAGNOSTICS

**When DATA™ is applied for biomarker discovery the same product can evolve into the companion diagnostic without further development. The workflow diagram below illustrates this process.**

### Current companion diagnostic



### DATA™ companion diagnostic



The DATA™ product suite enables a common platform for discovery and companion diagnostic because of the price point and the target selection strategy.

# ▶ DATA™ Services

## ▶ SERVICES

- Access to samples or patients with appropriate permissions**
- Data acquisition from the samples**
- Bioinformatics to extract knowledge and answer questions from the data**
- Development of companion diagnostics**

## ▶ FEATURES

### Access to samples or patients with appropriate permissions

Genomic Expression enjoys direct access to a wide variety of tissue and other samples through its network of partners. Each project begins with an objective and deliverables assessment:

- **Questions to be answered**
- Target (DNA, RNA, methylation, other)
- Target size (number of bp)
- Plurality of the target? (# of mutations/methylations/etc.)
- Number of samples
- Type of additional filtering process (RT, PCR, CLIP, MIP, hybridization, bisulphite conversion, precipitation, etc.)
- Sample material (tissue, blood, etc.)

### Data acquisition from the samples

Genomic Expression employs its patented DATA™ platform to collect a variety of data useful to answering specific questions. Through its staff and partners (data acquisition partners), the company enjoys extensive expertise in the data collection techniques and practices, and can make use of third party tools to supplement its own platform. GEX's also deploys various proprietary target enrichment and filtration techniques that enable the company to extract and analyze minimum data points without losing valuable information.

### Bioinformatics to extract knowledge and answer questions from the data

Genomic Expression performs all areas of its service with the final objective of providing meaningful and actionable data points. Deliverables may include specific set of biomarkers and their correlation to treatment and health status.