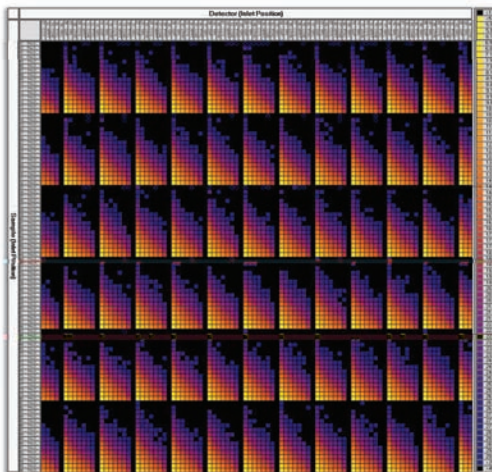


The BioMark 96.96 Dynamic Array – Gene Expression

NEW
96.96 DYNAMIC ARRAY

HIGH-THROUGHPUT MULTIPLEX PCR

- Gene Expression
- SNP Genotyping
- Digital PCR



Gene expression results may be viewed as a heat map showing 9,216 reactions per run.

The BioMark™ 96.96 Dynamic Array provides the flexibility of a microwell plate and the density of a microarray in one easy-to-use, consumable integrated fluidic circuit (IFC).

The key advantages include:

- Easy multiplexing of 96 primer-probe sets against 96 samples
- 9,216 individual data points per dynamic array
- 192 liquid-transfer steps per 9,216 reactions, with complete setup flexibility

The New Standard in High Throughput Profiling

BioMark dynamic arrays radically reduce the cost per data point and time to results while radically raising the bar for parallel throughput. The chart below shows parameters to complete a study of 2,000 samples against 96 genes using 384-well plates as compared to 96.96 Dynamic Arrays:

	384-WELL	96.96 DYNAMIC
TOTAL RUNS	500	21
REACTIONS PER RUN	384	9,216
TOTAL LIQUID-TRANSFER STEPS	384,000	4,032
TOTAL MASTER MIX	960 ml	5.1 ml

The Power of Microfluidics

With a dynamic array, high-throughput multiplexing is easy because the microfluidic architecture does the work of combining samples and primer-probe sets into 9,216 PCR reactions. That's twenty four-fold more data than is produced by a 384-well plate. This radical advance in experiment density is fully leveraged through a hardware/software system that automates setup and data analysis.

96.96 Dynamic Array – Gene Expression Specifications

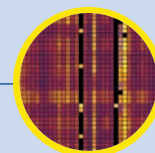
COMPONENTS

PARAMETER	SPECIFICATIONS
Quantitative resolution	2-fold difference in starting copy with 99.7 % confidence and 6-log of dynamic range
Chip format	SBS Compatible (128 mm x 85 mm x 14 mm)
Inlet spacing on input frame	4.5 mm pitch
Liquid transfer steps	192
Primer-probe inlets	96
Sample inlets	96
Reaction chambers	9,216
Reaction volume	6.7 nl

- **The BioMark System for Genetic Analysis**
- **Digital Arrays**
Consumable IFCs for digital PCR.
- **Dynamic Arrays**
Consumable IFCs for gene expression analysis and SNP genotyping.
- **IFC Controller**
Integrated hardware/software for loading IFCs.
- **Real-Time qPCR System**
Integrated hardware/software for thermal cycling and real-time or end-point detection of fluorescent signal within BioMark IFCs.
- **Software Suite**
Analysis software for real-time qPCR, SNP genotyping, and digital PCR.
- **Service Plans**
Hardware service and software maintenance plans.

Work Flow

- 1 Prime**
Prime the dynamic array to close the interface valves, preventing premature mixing of samples and assays.
- 2 Transfer**
Pipette samples, premixed with master mix, into separate sample inlets and the primer-probe sets into separate primer-probe inlets on the frame of the chip.
- 3 Load**
Place the dynamic array on the IFC controller, and use the software interface to pressure load the assay components into reaction chambers. Assay components are automatically combined on-chip.
- 4 Run**
Place the dynamic array on the BioMark Real-Time PCR System for thermal cycling and fluorescence detection.
- 5 Analyze**
Use real-time qPCR Analysis software to view and to interact with amplification curves, color-coded heat maps, and C_t data for the run.



For Use with Gold-Standard PCR Assays

The BioMark system runs licensed 5' nuclease assays, so it integrates easily into established workflow. The footprint of the dynamic array and spacing of fluid inlets comply with SBS* standards, so the laboratory may continue to use existing liquid-handling equipment. Fluidigm has adopted SBS standards for all of its systems, ensuring compatibility of BioMark instrumentation with higher density arrays in future releases.



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Fluidigm recommends that you only purchase TaqMan® dual-labeled probes and/or other licensed PCR assay reagents from authorized sources.

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