

48.770 Digital Array™ IFC – Digital PCR

INDIVIDUAL MOLECULE QUANTIFICATION

- Copy Number Variation Studies
- Absolute Quantification
- Mutation Detection

The Fluidigm 48.770 Digital Array Integrated Fluidic Circuit (IFC) delivers high-throughput digital PCR — the most powerful technique for individual molecule quantification. The 48.770 Digital Array IFC enables up to 48 individual samples to be tested at a time.

Key Benefits –

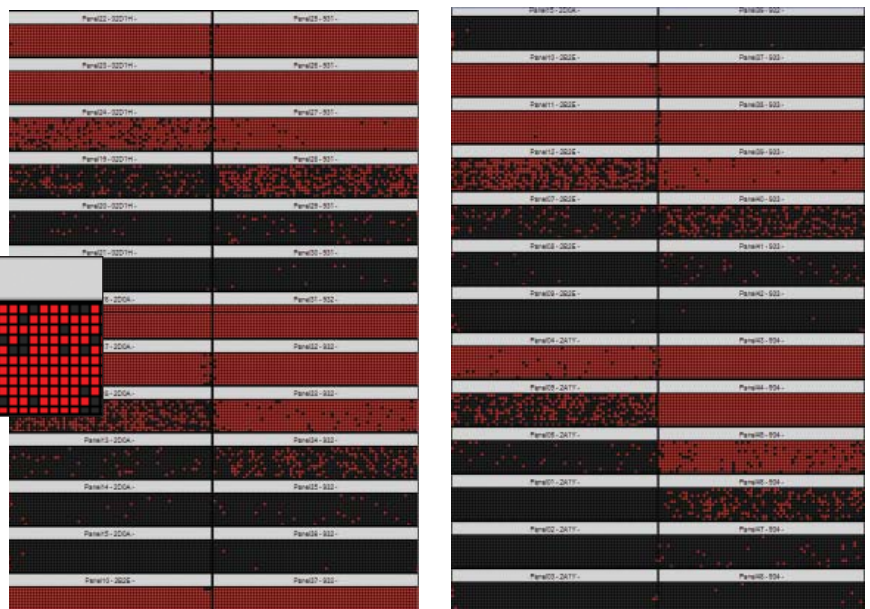
- *Unique – the only commercially proven solution for digital PCR.*
- *High throughput – up to 48 samples per run.*
- *Accurate – detection and quantification for individual molecules.*

The Power of Digital PCR

Digital PCR significantly improves the performance of standard PCR assays. Therefore, resolution is higher for CNV experiments, selectivity is better for mutation detection, and molecule quantification is absolute.



Each bright spot indicates a positive PCR reaction. The total number of positives is used to calculate the number of target molecules in an individual sample. Forty eight samples can be tested on a single 48.770 Digital Array IFC.



Specifications

PARAMETER

Detection sensitivity	Single copy (if copy is present in the reaction chamber)
Footprint dimensions	128 mm x 85 mm x 14 mm
Inlet spacing on input frame	4.5 mm pitch
Minimum input volume/sample	4 uL (48 samples per array)
Liquid transfer steps	48
Sample inlets	48
Reactions per sample	770
Total reaction chambers	36,960
Individual reaction volume	0.85 nL
Total reaction volume/sample	0.65 uL (per sample)
Instrument compatibility	BioMark Real-Time PCR System, EP1™ Reader, IFC Controller MX

Fluidigm System for Genetic Analysis

- **Dynamic Array™ IFCs**
Consumable IFCs for high-throughput gene expression analysis and SNP genotyping.
- **Digital Array™ IFCs**
Consumable IFCs for digital PCR.
- **IFC Controller**
Integrated hardware/software for loading IFCs.
- **FC1™ Cyclor**
Hardware/software for thermal cycling of IFCs.
- **EP1™ Reader | Real-Time PCR System**
Integrated hardware/software for detection of fluorescent signal within IFCs.
- **Software Suite**
Analysis software for gene expression analysis, SNP genotyping, and digital PCR.
- **Service Plans**
Hardware service and software maintenance plans.

Digital Accuracy — Fast, Easy, and Reliable

The 48.770 Digital Array IFC uses IFC technology to automatically partition each of the 48 samples into 770 PCR reactions (36,960 individual qPCR reactions). This partitioning, of as little as 4 uL of total reaction volume, eliminates the need for time consuming pipetting steps while minimizing reagent costs. Digital Array IFCs are compatible with off-the-shelf reagents and standard SBS* format dispensing layouts.



48.770 Digital Array Work Flow

- DNA**
- 1 Prime.**
00:20
- 2 Dispense.** Pipette DNA samples, premixed with master mix and primer-probe sets, into inlets on the IFC.
00:25
- 3 Load.** Place the Digital Array IFCs on the IFC controller to automatically load the sample mixture into reaction chambers.
00:55
- 4 Run.** Place the Digital Array IFC on the BioMark Real-Time qPCR System (or FC1 Cyclor and EP1 Reader) for thermal cycling and fluorescence detection.
03:20
- 5 Analyze.** Use Digital PCR Analysis software to count the number of positive PCR reactions per sample and calculate the sample concentration.

Fluidigm®

Corporate Headquarters

Fluidigm Corporation
7000 Shoreline Court, Suite 100
South San Francisco, CA 94080 USA
Toll-free: 1.866.FLUIDLINE
Fax: 650.871.7152
www.fluidigm.com

Sales

North America
650.266.6170 | biomark@fluidigm.com
Europe/EMEA
+33 1 60 92 42 40 | biomark@fluidigm.com
Japan/Korea
+81 3 3555 2351 | biomarkasia@fluidigm.com
Asia
+65 9431 3790 | biomarkasia@fluidigm.com

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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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* Society of Biomolecular Sciences