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QuantStudio Absolute Q Digital PCR System

Powerfully simple digital PCR

Using consumable plates with proprietary microfluidic array plate technology, the Applied Biosystems™ QuantStudio™ Absolute Q™ Digital PCR System allows for over 95% of the sample to be analyzed across over 20,000 consistently generated micro-chambers. **Why digital PCR?**

Digital PCR (dPCR) is a nucleic acid quantification technique that allows absolute quantification without the need for standard curves. Bulk reaction mix is distributed or digitized into thousands of small independent reactions so that each micro-chamber contains either one or zero copies of the target. Statistical methods are then used to calculate the original concentrations based on the number of positive and negative micro-chambers.

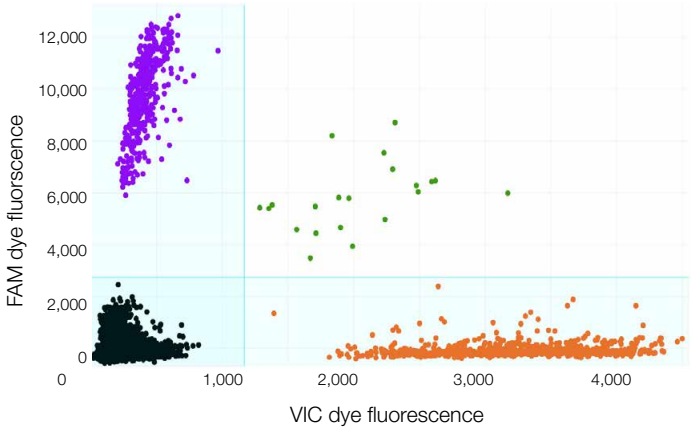
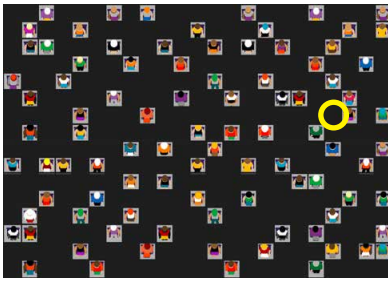


Figure 1. Positive and negative micro-chambers across two optical channels.

Seeing the whole picture

When digitizing a reaction, it's important to analyze as much of the loaded reaction as possible to maximize sensitivity and accuracy of measurement. The QuantStudio Absolute Q Digital PCR System analyzes over 95% of the sample, delivering more accurate data to help researchers find the information they're seeking.



25% sample analyzed
Supplier X system

95% sample analyzed
QuantStudio Absolute Q system

Figure 2. Think about finding a friend in a crowded theater. If 75% of the seats are not visible, it's significantly more difficult to find the person for whom you are looking.

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Microfluidic array plate (MAP) technology

The Applied Biosystems™ QuantStudio™ Absolute Q™ MAP16 Digital PCR consumable used with the QuantStudio Absolute Q Digital PCR System uses microinjection molded plate technology to overcome common reagent distribution challenges of inconsistency and high dead volume. This novel approach provides many benefits, including precise micro-chamber volume, consistent sample digitization, and greater than 95% of the loaded volume analyzed.

- 16 samples per plate
- 20,000 micro-chambers per reaction
- <5% dead volume

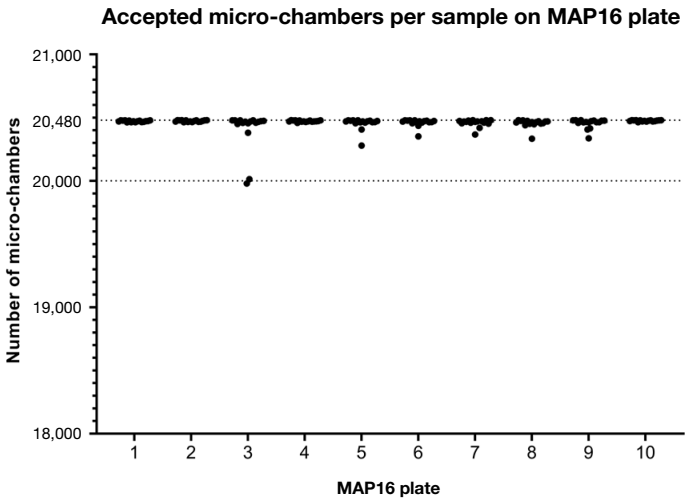


Figure 3. This graph shows the number of analyzed micro-chambers for each of the 16 samples per MAP16 plate; 10 plates were evaluated for a total of 160 samples.

Enhanced optical multiplexing

With the ability to multiplex using up to four optical channels, the QuantStudio Absolute Q Digital PCR System enables more targets to be measured per sample, saving time and reagents.

Broad applications

The QuantStudio Absolute Q Digital PCR System is an ideal solution for any application requiring high sensitivity, precision, and accuracy.

Research areas

- Oncology
- Reproductive health
- Infectious disease
- Inherited disease
- Gene editing

Key applications

- Rare target quantification
- Genotyping
- Copy number variation
- Gene expression
- Absolute quantification

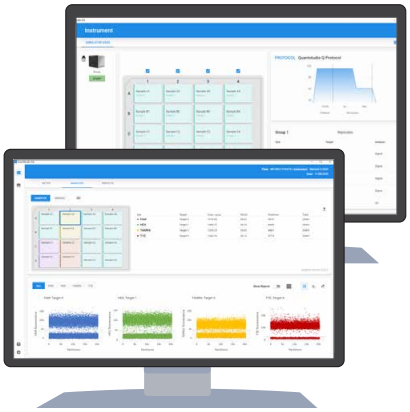
Simplified workflow

The QuantStudio Absolute Q Digital PCR System integrates all the necessary steps for dPCR—digitization, thermal cycling, and data acquisition—into a single instrument. Simply pipet the reaction mixture into the MAP plate as you would for real-time PCR, and the platform will take care of the rest.

Easy-to-use analysis software

Using the control software, parameters such as plate layout, optical channels, and thermal conditions can be easily modified so you can quickly start generating data. Once set up, specific protocols can be saved and reloaded, streamlining your workflow.

Visualizing multiplexed data or calculating concentrations across replicates is fast and easy. Results can be easily exported for downstream analysis or compiled into a report.



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Services and support you can count on

Maximize system uptime, reduce repair costs and turnaround time, extend the life of your instrument, and help keep it running at peak performance with a comprehensive service plan.

For the QuantStudio Absolute Q Digital PCR System, the AB Assurance service plan is the perfect fit. It helps take the guesswork out of ensuring instrument uptime, from issue prevention to quick resolution. All parts, labor, and travel costs are included for standard repairs, and the annual planned maintenance makes it easy to stay on top of instrument care.

Also, with features like SmartStart Orientation, you'll be set up for success. Led by professional trainers, the on-site orientation provides interactive education that includes application-specific lectures, hands-on experiment preparation, instrument and software setup, and basic data analysis.

Explore our services and support solutions at **thermofisher.com/instrumentservices**

Find out more at **thermofisher.com/absoluteq**

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