

Maximum productivity with minimum effort

QuantStudio 12K Flex Real-Time PCR System

This one instrument enables multiple users to conduct a wide range of experiments, from low- to high-throughput sample processing and virtually any PCR application, such as:

- Drug discovery
- Pharmacogenomics research
- MicroRNA profiling
- Agriculture molecular testing
- *CFTR* mutation analysis
- Vaginal microbiota research

Miniaturization at a lower cost

Applied Biosystems™ OpenArray™ technology is a broadly applicable nanoliter fluidics platform for low-volume solution-phase reactions, and enables lower reagent and assay costs, and rapid parallel processing.

Superior throughput

The Applied Biosystems™ QuantStudio™ 12K Flex Real-Time PCR System can simultaneously run up to four 3,072-reaction Applied Biosystems™ OpenArray™ plates in about 4 hours. You can produce up to 110,000 data points in an 8-hour day with the addition of a single Applied Biosystems™ ProFlex™ PCR System.

Outstanding flexibility

Easily switch between five available thermal cycling blocks: OpenArray plate, TaqMan Array Card, 384-well, and standard or Fast 96-well blocks. Load the thermal cycling block in less than 1 minute—no tools required.

Increased data integrity and quality control—with results you can trust

The integrated sample tracking and security, auditing, and electronic signature (SAE) module assist you in supporting 21 CFR Part 11 compliance.

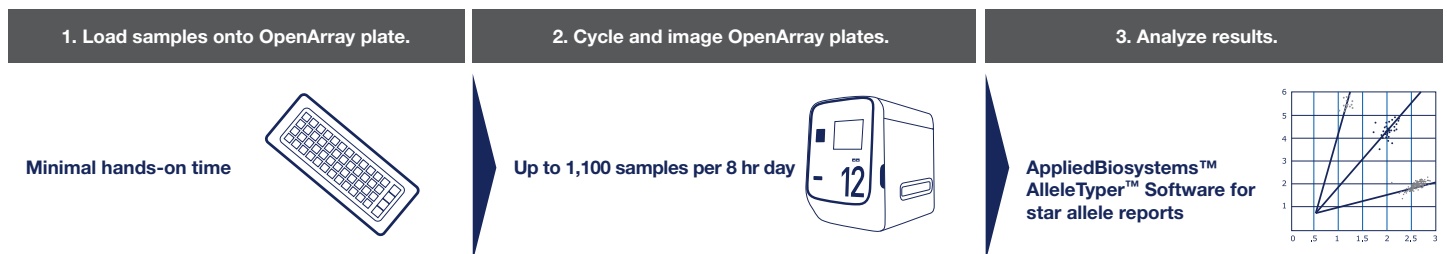
Application spotlight

Pharmacogenomics research

Pharmacogenomics is the study of drug efficacy based on a subject's unique genomic composition. The QuantStudio 12K Flex system and OpenArray technology provide a simple, cost-effective, and fast workflow for the analysis of mutations and copy number variants associated with drug metabolism enzyme (DME) genes.



OpenArray workflow



Find out more at [thermofisher.com/quantstudio12k](https://www.thermofisher.com/quantstudio12k)

Specifications

QuantStudio 12K Flex system		
Block change design	<ul style="list-style-type: none"> 96-well (10–100 μL reactions) Fast 96-well (15–30 μL reactions) 384-well (5–20 μL reactions) TaqMan Array Card (~1 μL reactions) OpenArray Plate (33 nL reactions) 	
Block change design	Block change from front in less than 1 min; no tools or service call required	
Excitation source	Enhanced OptiFlex system, white LED	
Instrument control	Instrument touchscreen, networked computer, or attached computer	
Detection channels	<ul style="list-style-type: none"> Decoupled: 6 emission, 6 excitation (96-well/Fast, 384-well, TaqMan blocks) Coupled: 4 emission, 4 excitation (OpenArray blocks) 	
21 CFR Part 11 enablement	Optional software module	
Dimensions (H x W x D)	73.8 x 50.1 x 66.1 cm	
Weight	70 kg	
Remote monitoring	Available to monitor up to 15 networked instruments simultaneously	
	96-well, 96-well Fast, 384-well, TaqMan Array Card blocks	OpenArray block
Detection channels	Decoupled: 6 emission, 6 excitation	Coupled: 4 emission, 4 excitation
Well-to-well variability	$\pm 0.25^{\circ}\text{C}$	$\pm 0.75^{\circ}\text{C}$
Max. block ramp rate	3.0 $^{\circ}\text{C}/\text{sec}$ (384-well)	3.0 $^{\circ}\text{C}/\text{sec}$
Run time	<ul style="list-style-type: none"> 30 min expected (Fast 96-well block) 35 min (384-well block, using Fast master mix) 	<ul style="list-style-type: none"> 2 hr (gene expression) 4 hr (genotyping)
Demonstrated sensitivity	To 1 copy	To 1 copy
Dynamic range	To 9 logarithmic units	To 7 logarithmic units
Resolution	As low as 1.5-fold change for singleplex reaction	As low as 2-fold change for singleplex reaction

Ordering information

Product	Cat. No.	Instrument + 1-year extended warranty with AB Complete Cat. No.*
QuantStudio 12K Flex Real-Time PCR System, OpenArray block with AccuFill System, desktop configuration	4471090	4480621
QuantStudio 12K Flex Real-Time PCR System with OpenArray Block without AccuFill system, desktop configuration	4472380	NA
QuantStudio 12K Flex Real-Time PCR System with TaqMan Array Card instrument, desktop configuration	4471089	4480622
QuantStudio 12K Flex Real-Time PCR System 384-well instrument, desktop configuration	4471134	4480623
QuantStudio 12K Flex Real-Time PCR System 96-well Fast, desktop configuration	4471088	4480625
QuantStudio 12K Flex Real-Time PCR System 96-Well, desktop configuration	4471087	4480631
96-Well Block Upgrade Kit	4453543	NA
96-Well Fast Block Upgrade Kit	4453544	NA
384-Well Block Upgrade Kit	4453545	NA
TaqMan Array Card Block Upgrade Kit	4453546	NA
OpenArray Block with AccuFill System	4471067	NA
QuantStudio 12K Flex AccuFill Upgrade Kit (For existing AccuFill system users)	4471022	NA

* Includes SmartStart orientation.

Recommended plastics					
96-well block	Cat. No.	96-well block Fast	Cat. No.	384-well block	Cat. No.
MicroAmp EnduraPlate Optical 96-Well Clear Reaction Plates with Barcode	4483354	MicroAmp EnduraPlate Optical 96-Well Fast Clear Reaction Plates with Barcode	4483485	MicroAmp EnduraPlate Optical 384-Well Clear Reaction Plates with Barcode	4483285
MicroAmp Optical 96-Well Reaction Plate with Barcode	4306737	MicroAmp Fast Optical 96-Well Reaction Plate with Barcode, 0.1 mL	4346906	MicroAmp Optical 384-Well Reaction Plate with Barcode	4309849
MicroAmp Optical 8-Tube Strip with Attached Optical Caps, 0.2 mL	A30588	MicroAmp Fast 8-Tube Strip	4358293	MicroAmp Optical 384-Well Reaction Plate	4343370
MicroAmp Optical Adhesive Film	4360954	MicroAmp Optical 8-Cap Strips	4323032	MicroAmp Optical Adhesive Film	4360954
		MicroAmp Optical Adhesive Film	4360954		

Multiple colors are available for most Cat. Nos.