

# AriaDx Real-Time PCR System

*For In Vitro Diagnostic Use*



## Total Confidence in qPCR

The Agilent AriaDx Real-Time PCR system is capable of evolving with your future clinical needs and providing you with modular and precise real-time PCR. The AriaDx system offers intuitive software and excellent quality, empowering you with fast, reproducible, and accurate results. The state-of-the-art thermal cycler, LED optical modules, and on-board instrument self-diagnostic tests keeps lifetime costs low and makes the AriaDx system a need in clinical laboratories.



## Confidence in Success

### Fast instrument for fast chemistries

The AriaDx system's next-generation optics design, precision thermal block, and easy user interface enable quick turnaround times from assay set up to results – meaning quicker time to results.

- Blazing fast scan times: up to three seconds for all six channels
- Ready to go: factory calibrated
- Fast assay set up: intuitive touch screen interface

**Speed**



## Confidence in a System that Meets Your Needs

### Today and tomorrow

The agile design of the AriaDx Real-Time PCR system offers the industry's first configurable and customer-changeable optics. Now you can mix and match optics to suit your needs today, and easily change them to suit your needs for tomorrow.

- Up to six optical module types/filters to choose from
- Low maintenance and lower life time costs
- On-board self-diagnostics to keep your instrument running better

**Agility**



## Confidence in Easy-to-Use, Precise Software

### Superior data and data analysis

The AriaDx software combines robust data analysis algorithms and intuitive organization for precision and ultimate ease-of-use.

- Free software package
- Electronic Tracking software
- Tight and accurate thermal control

**Precision**





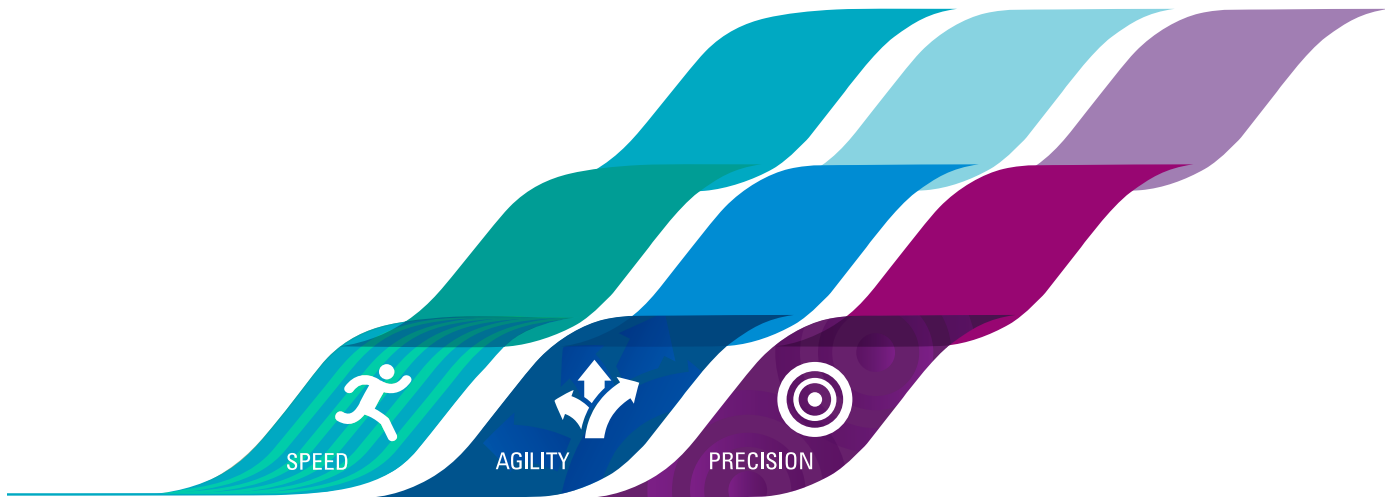


# AriaDx

**Better Systems. Brilliant Results.**

Confidence in a system that meets your needs today and tomorrow.





The AriaDx Real-Time PCR system is a fully integrated qPCR amplification, detection, and data analysis platform. The system's modular design combines a state-of-the-art thermal cycler, an advanced optical system with spectra-optimized LED modules, comprehensive data analysis software.

The instrument leverages a comprehensive software suite of on-board diagnostics, giving you confidence that fail points are identified prior to running your assay. Experience total confidence with AriaDx's blend of speed, agility, and precision.

## Speed

*Ready, go!*

### **Factory calibrated**

The Agilent AriaDx Real-Time PCR system is ready to go out of the box — no calibration required!

### **Ultrafast chemistry**

The AriaDx is optimized for our Brilliant III reagents and can run all fast chemistries.

### **Blazing scan times**

Scan all channels in less than three seconds — the fastest in the industry.

## Agility

*Today and tomorrow*

### **Modular design**

Interchangeable optical modules allow in-lab upgrades with the click of a button.

### **Intuitive interface**

The touch screen makes system integration easy for all users.

### **Broad applications**

The AriaDx supports multiple assays, chemistries, and applications, including: gene expression, comparative quantitative PCR, genotyping, allele discrimination, NGS library quantification, and more.

## Precision

*Superior data*

### **Thermal control**

Easily maintains  $\pm 0.2^{\circ}\text{C}$  of your target temperature.

### **Impressive sensitivity**

Two-fold discrimination in one cycle with 95% confidence over a wide dynamic range.

### **Easy reporting**

Quickly export raw data in multiple formats and customize data reports.

# Speed

**Ready, go!** Agilent Technologies provides a total solution approach to real-time quantitative PCR.

AriaDx instrumentation makes routine and complicated applications simpler and faster without sacrificing data integrity. Additional benefits of the AriaDx system:

- **Multiplex**  
More agility and speed in your assays with reagents optimized for your reactions.
- **Open platform**  
Compatible with multiple reagent chemistries.

Standard Curve

Fluorescence Term:  $\Delta R$   $\Delta R_n$

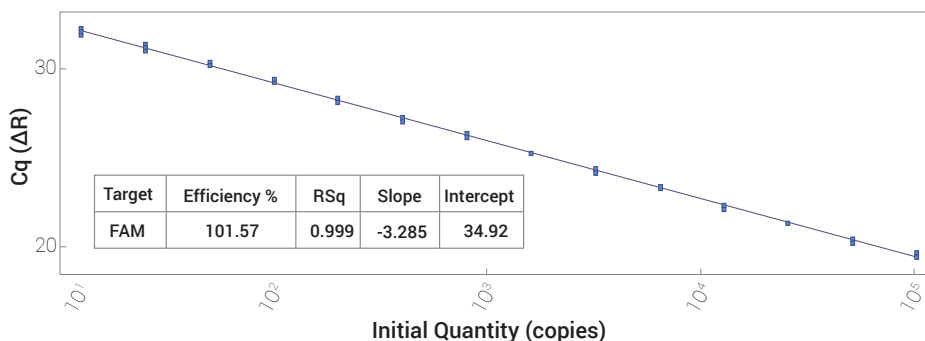
Target Information Table

Target	Efficiency	R <sup>2</sup>	Slope	Intercept
FAM	96.47	0.998	-3.41	22.06
HEX	97.53	0.999	-3.383	22.52
ROX	101.54	0.999	-3.286	21.75
CY5	99.84	0.998	-3.326	22.21
CY3	96.21	0.997	-3.416	22.41
ATT0	96.21	0.997	-3.416	22.41

Figure 1. Six color standard curve data by fluor.

- *Tight manufacturing quality controls.*
- *Open reagent platform: use your assays and reagents.*

Standard Curve



The AriaDx is sensitive enough to detect 2 copies to 1x10<sup>9</sup> copies.

Amplification Plots

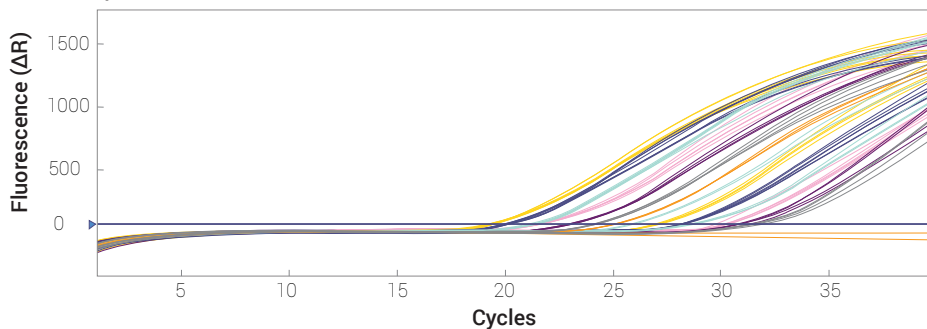


Figure 2. Amplification and standard curve plots showing sensitivity measuring a two-fold change.



**Optical modules.** The first real-time PCR system with optics contained in modular cartridges, the AriaDx system allows for less cross talk between channels – resulting in improved data resolution.

The AriaDx system comes calibrated directly from the factory. Now you can be confident you are measuring biological variation over the instrument's life.

- LIMS connectivity
- Expandable and upgradeable in the lab
- No reference channel needed
- “Set it and forget it” calibration
- Accommodate as many or as few optical channels as you require

With optical modules that have no need for a reference channel, you get tight calibration and steady emission wavelengths for consistent data with every run.



*Software with LIMS connectivity. To effectively and effortlessly manage import and export of experimental data.*

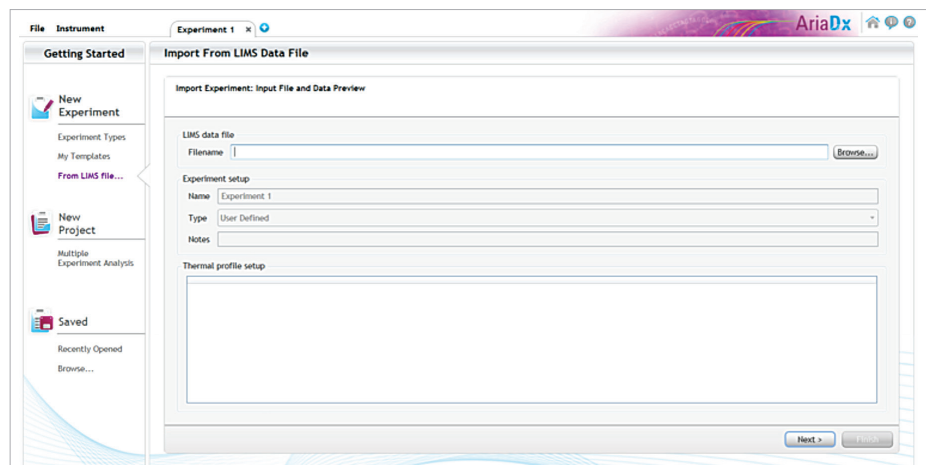


Figure 3. Set up experiments quickly and efficiently using LIMS import feature.





**Excellent data.** Easy-to-use software with proprietary algorithms accompany AriaDx's precision chemistry and thermocycling capability.

**Easy touchscreen set-up**

Simple-to-use, feature-rich touchscreen allows you to set up runs with the touch of a finger. Secure data management and audit trailing features are available by licensing Electronic Tracking software.

**Plate maps at your fingertips**

Program at the plate and well level. Simply hover over a well, and its details will open in a new window.

**New software features**

- Touchscreen set-up
- Onboard diagnostics
- Remote monitoring
- Base software included with instrument purchase
- LIMS connectivity at no additional charge
- Secure data management and audit trail using Electronic Tracking software



- *LIMS connectivity at no additional charge.*
- *Secure data management and audit trail provided by Electronic Tracking software.*

	1	2	3	4	5	6	7	8	9	10	11	12
A	Unknown 1	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown 7	Unknown	Unknown	Unknown	Unknown
B	Unknown 1	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown 7	Unknown	Unknown	Unknown	Unknown
C	Unknown 1	Unknown	Homo A 3	Hetero 4	Homo B 5	NTC 6	Unknown	Unknown 7	Unknown	Unknown	Unknown	Unknown
D	Unknown	Unknown	Homo A 3	Hetero 4	Homo B 5	NTC 6	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
E	Unknown	Unknown	Homo A 3	Hetero 4	Homo B 5	NTC 6	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
F	Unknown 2	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown 8	Unknown	Unknown	Unknown	Unknown
G	Unknown 2	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown 8	Unknown	Unknown	Unknown	Unknown
H	Unknown 2	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown 8	Unknown	Unknown	Unknown	Unknown

Figure 4. Easy-to-access plate and well maps.

## Pre-programmed assays

Pre-programmed assays allow for easy selection of calibrators, normalizers and sample associations.

- Quantitative PCR
- Allele discrimination
- Comparative quantification

In high throughput gene expression studies, standard curves are not used. Relative quantity calculation is automated using the comparative quantitation module in the AriaDx software. See Figure 5 for details.

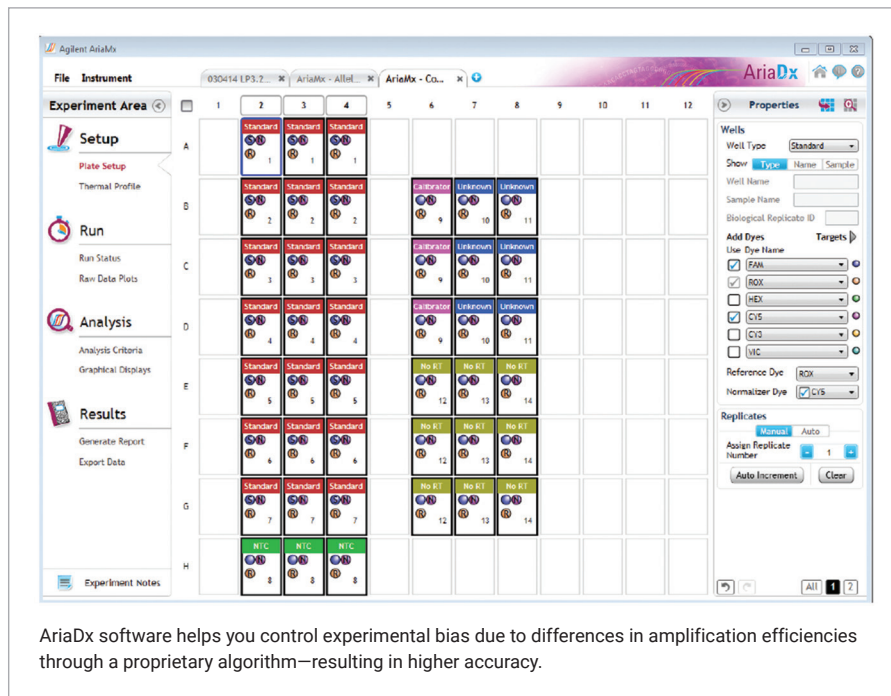


Figure 5. Set-up screen for comparative quantitation.

Note: Electronic Tracking software is available at an additional cost. HRM analysis feature is not available for the AriaDx.

## Easy reporting

Easily export raw data in multiple formats with the touch of a finger. Select only those datasets you want displayed using custom data reports:

- Plate set-up
- Experimental thermal profile
- Raw data plots
- Analysis criteria
- Amplification plots
- Allele determination
- Graphical displays
- Tabular results
- Experimental notes

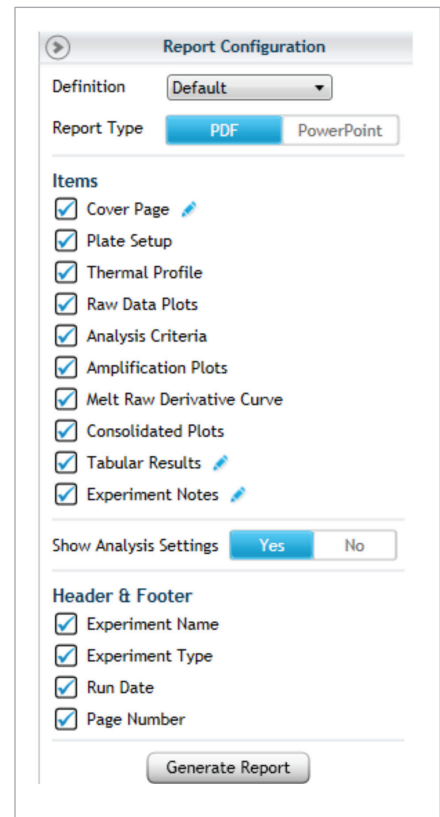


Figure 4. Report configuration.



# Services

Give your data the attention it deserves. Regain time lost on peripheral tasks and focus on the critical processes that keep your lab successful.

## **More reliable results and achievements**

Agilent CrossLab Diagnostic Service plans ensure productivity and availability for critical systems, deliver fast response times, and provide priority handling for technical support and repairs. An instrument service plan can cover single or multiple instruments. They also are an ideal way to avoid unplanned downtime and expenses.

## **Confidence, not compromise**

The Agilent CrossLab service group stands behind every instrument, giving you confidence in equipment functionality and data. Agilent has one global focal point: providing our customers with the best service available worldwide. Up to 90% of Agilent-certified service professionals hold advanced degrees and average over 7.5 years of instrument repair experience. Equipped with calibrated and traceable tools, our Agilent-certified service professionals verify your equipment is running at maximum performance.

## **Breadth of services**

Agilent-certified professionals have been called upon to support customers with customized training, systems and enterprise integration, workflow design, special engineering projects, protocol development, and project management. We have conducted over 100,000 successful system qualifications worldwide, and our genomics professionals operate in 65 countries.

- *96%+ of parts are immediately available when needed*
- *Fast delivery for critical parts*
- *Dedicated instrument support for fast issue resolution*

Cost effective  
**Rapid response**





## Rapid assistance

Whatever the challenge, our Virtual Tech Support resources address your needs. You can expect reduced downtime with our call center and rapid instrument assistance from our highly experienced genomics technical support professionals. Many of our technical support professionals are PhD scientists with extensive genomics experience. Half of instrument issues are resolved through our Virtual Tech Support service.

## Warranty and multi-year upfront coverage

Each AriaDx system has a global warranty, including the standard warranty for the country of purchase. If moved to another country, the destination country's standard warranty will apply to the instrument.\*

## Agilent CrossLab service plans available for purchase with AriaDx include:

- **Installation and introduction (I&I):** Our Agilent-certified service professionals will install and introduce you to the AriaDx system.
- **Extended warranty diagnostic (onsite repair):** Have an Agilent service professional diagnose and repair to keep your AriaDx running at peak performance.
- **Agilent CrossLab preventive maintenance diagnostic:** This factory-recommended service ensures reliable operation and accuracy for a range of diagnostic systems. Our certified service engineers utilize quality Agilent parts and supplies, and follow certified procedures for the highest levels of maintenance.
- **Agilent CrossLab silver diagnostic:** Our most comprehensive service plan, it covers both repair and maintenance of your system to meet all of your diagnostic laboratory needs. It includes preferred response over time-and-materials calls. All onsite repair visits and repair parts to restore your system to operating condition in addition to an annual preventive maintenance service. A cost-effective offering to help maximize your instrument's availability keep your system running at peak performance.

*\* Except for on-site warranty where Agilent does not have an applicable product-specific support presence or authorized representative in that country.*

## Specifications Table

Feature	Description
Excitation Source	8 dye specific LEDs per optical module
Detection Sources	8 photodiodes
Optical Module	SYBR/FAM HEX ROX CY3 CY5 ATTO425 6 slots, swappable optical modules
Dye Selection	Excitation and Emission
Reaction Volume	10 µl to 30 µl
Chemistries Supported	SYBR and TaqMan chemistries
Thermal System	Six Peltiers made from two ceramic plates with semi-conductor elements, 96-well
Thermal System Temperature Range	25.0 – 99.9°C Heating: 6.0°C/sec Cooling: 3.0°C/sec (Median), 2.5°C/sec (Average) Accuracy: ± 0.2°C or better at typical annealing, amplification, and denaturation temperatures
Dynamic Range	9
Experiment Types	Quantitative PCR with dye, Quantitative PCR with probe, Allele Discrimination with probe, Comparative Quantitation, User Defined
Uniformity	± 0.4°C
Data Acquisition Time	<3 seconds for all
Electrical Power (input)	100 – 240VAC, 50/60Hz, 1100VA
Operating Environment	20 – 30°C, 20 – 80% non-condensing humidity, 7500 feet, max altitude
Weight	50 lbs. (23 kg)
Dimensions	19.7" W x 18.1" D x 16.5" H (50cm x 46cm x 42cm)
Sample Containers	96-well plates, strip tubes; 0.2mL tubes
Warranty	<ul style="list-style-type: none"> <li>• 1 year warranty is standard with the instrument</li> <li>• 5 year warranty and service packages available</li> </ul>
Onboard Analytics	<ul style="list-style-type: none"> <li>• Thermal, physical, interactive (sensors) tests</li> <li>• Extended: 125 performance points tested in 30 minutes</li> <li>• Start-up: 59 performance points tested in ~1 minute</li> <li>• Optional bypass of both features</li> </ul>
Services (upon request)	<ul style="list-style-type: none"> <li>• Installation &amp; introduction</li> <li>• Standard preventive maintenance</li> <li>• Extended warranty and service contracts available</li> <li>• Onsite repair where available</li> </ul>
Operating System	<ul style="list-style-type: none"> <li>• Windows 10 - with preferred language set to English (United States)</li> </ul>
Run Modes	<ul style="list-style-type: none"> <li>• Stand alone</li> <li>• PC connected</li> <li>• LAN connected to PC (more than 20 instruments can be connected and monitored remotely)</li> <li>• USB connected, external devices</li> </ul>
Software	<ul style="list-style-type: none"> <li>• Free software including LIMS connectivity feature</li> <li>• Electronic Tracking software</li> </ul>
Optical Module Calibration and Cleaning	<ul style="list-style-type: none"> <li>• All channels can be tested and calibrated</li> <li>• All attributes of optical channels are calibrated at the factory – LED light output, light path, mirror, and photodiode</li> <li>• Optical modules can be cleaned in the lab without requiring help from an Agilent technician or a factory return.</li> </ul>
Selected Applications	<ul style="list-style-type: none"> <li>• Quantitative and qualitative gene expression analysis</li> <li>• miRNA analysis</li> <li>• Genetic mapping</li> <li>• Genetic fingerprinting</li> <li>• NGS library quantification</li> <li>• 2-5 channel multiplex ability</li> <li>• Pathogen quantification</li> </ul>

### **Useful Web Link**

Software updates  
Ensure your software is the most  
current version by visiting

[www.agilent.com/en/product/  
real-time-pcr-\(qpcr\)/real-time-pcr-  
\(qpcr\)-instruments/ariadx-soft-  
ware-download](http://www.agilent.com/en/product/real-time-pcr-(qpcr)/real-time-pcr-(qpcr)-instruments/ariadx-software-download)

### **Technical Support**

[www.agilent.com/en/contact-us/page](http://www.agilent.com/en/contact-us/page)



# AriaDx

BETTER SYSTEMS. BRILLIANT RESULTS.



SPEED



AGILITY



PRECISION



Cost-Effective

Interchangeable

OPTICAL CARTRIDGES

Modular

## Ordering Information

Category	Part #	Description	Quantity
Instrumentation	K8930AA	AriaDx Real-Time PCR instrument	1
	Option 101	SYBR/FAM Optical Modules	1/pack
	Option 102	ROX Optical Modules	1/pack
	Option 103	HEX Optical Modules	1/pack
	Option 104	CY3 Optical Modules	1/pack
	Option 105	CY5 Optical Modules	1/pack
	Option 106	ATTO425 Optical Modules	1/pack
	Option 300	Electronic Tracking software	1
	Option 650	HP laptop PC for use with AriaDx	1
AriaDx Software Upgrade (post instrument purchase)	K5822AA	Electronic Tracking software	1
Optical Modules (sold without instrument)	G8830-67001	SYBR/FAM Optical Modules	1/pack
	G8830-67002	ROX Optical Modules	1/pack
	G8830-67003	HEX Optical Modules	1/pack
	G8830-67004	CY3 Optical Modules	1/pack
	G8830-67005	CY5 Optical Modules	1/pack
	G8830-67006	ATTO425 Optical Modules	1/pack
Plastics	401490	96-well plates, skirted and low profile	1 x 25/pack
	401491	96-well plates, skirted and rigid	1 x 25/pack
	401494	96-well plates, non skirted low profile	1 x 25/pack
	401492	Adhesive plate seals	1 x 50 plates
	401493	Low profile strip tubes for PCR and qPCR applications, without caps	8/strip x 120/box
	401425	Strip caps for PCR and qPCR applications	8/strip x 120/box
Qualification Plate	5190-7708	SYBR Qualification Plate	1 plate/pack

Learn more:

[www.agilent.com](http://www.agilent.com)

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