

applied biosystems



BUILT TO STREAMLINE YOUR PATH

qPCR systems and consumables
for developers and integrators

ThermoFisher
SCIENTIFIC

Real-time PCR (qPCR) for developers

In supporting diagnostic laboratories, you know how valuable molecular tests are for identifying and managing disease, predicting the risk of developing disease or recurrence, and informing decisions that help guide lifestyle choices and behaviors. We offer IVD instruments that, as developers, you can use to bring assays to market through the appropriate regulatory pathway for the countries that you market in.

Our solutions are designed to address your evolving needs so that you can focus on developing assays and tests for your customers. Our broad portfolio of instruments, reagents, plastics, and reverse transcriptases can support your development with products from the leader in real-time PCR innovation since 1996.

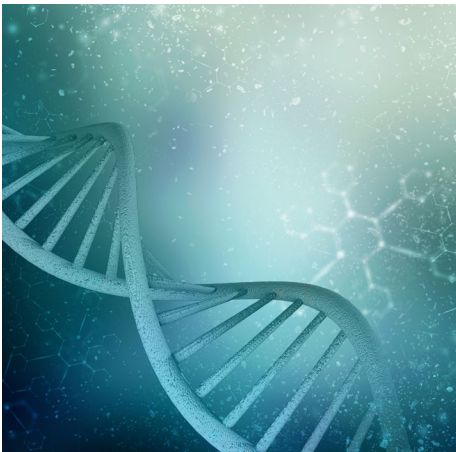
Instruments—choose from innovative systems with a small footprint, simple workflows and software, and a variety of high-quality service and support plans.

Consumables—use Applied Biosystems™ probes, master mixes, and PCR plastics that are designed and verified to enable optimal PCR performance.

And if you're already using an Applied Biosystems™ instrument, consider upgrading to gain benchtop space, lower cost of ownership, and improve usability with updated technology and software capabilities—all designed to save you time and money.

Learn more about our tried and true products, and see how there are Applied Biosystems™ real-time PCR systems and consumables that are just right for your needs.

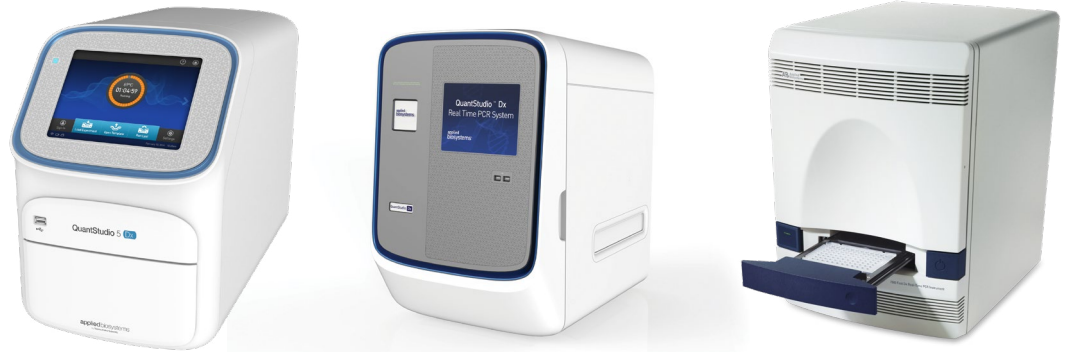
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Which instrument fits your needs?

Applied Biosystems™ IVD real-time PCR systems



System specifications

	QuantStudio 5 Dx system	QuantStudio Dx system	7500 Fast Dx system
Colors	Up to 6 colors (21 filter combinations)	Up to 6 colors (21 filter combinations)	5 colors
Touchscreen	8.5 in.	10.4 in.	None
VeriFlex Blocks temperature control	Yes, 6 zones	None	None
Security, auditing, electronic signature	Yes	Yes	Yes
Dimensions (H x W x D)	40 x 27 x 50 cm	74 x 50 x 66 cm	49 x 34 x 45 cm
Weight	26 kg	70 kg	34 kg

Development/IUO*

	QuantStudio 5 Dx system	QuantStudio Dx system	7500 Fast Dx system
Formats	96-well 0.2 mL	96-well 0.1 mL, 96-well 0.2 mL, 384-well, TaqMan Array Card	96-well 0.1 mL

RUO**

	QuantStudio 5 Dx system	QuantStudio Dx system	7500 Fast Dx system
Formats	96-well 0.2 mL	96-well 0.1 mL, 96-well 0.2 mL, 384-well, TaqMan Array Card	96-well 0.1 mL

CE-IVD

	QuantStudio 5 Dx system	QuantStudio Dx system	7500 Fast Dx system
Formats	96-well 0.2 mL	96-well 0.1 mL, 96-well 0.2 mL, 384-well, TaqMan Array Card	96-well 0.1 mL

US-IVD

	QuantStudio 5 Dx system	QuantStudio Dx system	7500 Fast Dx system
Formats	96-well 0.2 mL	96-well 0.1 mL	96-well 0.1 mL

* For Investigational Use Only. The performance characteristics of this product have not been established.

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Real-time PCR software

Multi-mode software

This flexible software enables test developers to bring IVD assays to market using the block(s) available on the system you choose, such as 96-well (0.1 mL and 0.2 mL) blocks, the 384-well block, or the Applied Biosystems™ TaqMan® Array Card block. Multi-mode software includes RUO,* IUO,** and IVD modes. The unique IUO mode software provides further benefits to test developers, helping to streamline clinical studies and minimize time and cost associated with bridging studies.

Real-time PCR software enables you to maintain secure access to instruments, specify user access to various software functions, record all actions completed by users, and sign data electronically. A security, auditing, and e-signature (SAE) module also offers the ability to run preoptimized protocols for users operating in a secure environment, as well as the flexibility to develop assays, and includes:

- Software wizards for versatile application support for the creation of genotyping, DNA quantification, gene expression, and pathogen detection assays
- Template files that can easily be saved and used to run assays that require set protocols
- Security features such as user login, user permission settings, system auditing, and e-signature approvals, all customizable to fit a range of security needs

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Test development areas*

Real-time PCR applications are commonly used for:

- Infectious disease research
- Molecular development
- Gene expression analysis
- SNP genotyping
- Standard curve analysis
- Presence/absence testing

Software comparison

	5 Dx	Dx	7500
RUO	Yes	Yes	No
IUO	Yes	No	No
IVD	Yes	Yes	Yes

An effortless, reliable IVD qPCR system to meet your unique needs

QuantStudio 5 Dx Real-Time PCR System

Designed to simplify workflows and minimize training needs, the Applied Biosystems™ QuantStudio™ 5 Dx Real-Time PCR System can help your customers get to their answers quickly by fitting your assays or test kits seamlessly into their established workflow. This compact, flexible system provides confidence in performance and supports your development so you can provide a solution to your customers.



An instrument with premium performance at an affordable price

Results you can trust—detect differences in target quantity as small as 1.5-fold in singleplex reactions, and obtain 10 logarithmic units of linear dynamic range

Simple, powerful software—allows users to set up a run, lay out assays, control the instrument, and conduct plate analysis within a single, easy-to-use software interface

Proven performance—over 25 years of real-time PCR instrument manufacturing and over 10 years of clinical instrument manufacturing

Security—SAE functionalities plus the ability to support multiple clients

- Maintain centralized SAE settings that can be applied to multiple instruments on the same network, allowing better control for your IT department

Flexibility you need—software designed with different modes supporting and streamlining the entire development journey from feasibility to commercialization

Maximize benchtop space—instrument is compact

Superior support—support is available globally by highly skilled, customer-focused staff

QuantStudio system performance—the reliability, sensitivity, and accuracy you expect, coupled with an intuitive and simple-to-use interface that allows users of any experience to easily operate the system

Find out more at [thermofisher.com/quantstudio5dx](https://www.thermofisher.com/quantstudio5dx)

Specifications

QuantStudio 5 Dx system	
Sample capacity	96 wells
Reaction volume	96-well 0.2 mL block: 10–100 µL
Excitation source	Bright white LED
Filter or color combinations	6 decoupled filters, CMOS camera
Excitation/detection range	450–680 nm/500–730 nm
Multiplexing	5-plex with 1 passive reference; 6-plex with no passive reference
Maximum block ramp rate	6.5°C/sec
Average sample ramp rate	3.66°C/sec
Temperature uniformity	0.4°C
Temperature range	4–99.9°C
Heating and cooling method	Peltier
Independent temperature zones	6 VeriFlex™ Blocks zones (5°C zone to zone)
Chemistries	Fast and standard
Run time	<30 min
Compatible dyes	FAM™, SYBR™ Green, VIC™, ABY™, NED™, TAMRA™, JUN™, ROX™, Mustang Purple™, Cy®5 dyes
SAE features	Audit trails can be enabled/disabled depending on traceability needs
Automation compatible	No
Footprint (H x W x D)	40 x 27 x 50 cm
Weight	27 kg

System benefits



Maintenance and calibration reports

Records are updated automatically with maintenance and calibration events and can be printed on demand, documenting that the system has been maintained and calibrated to vendor specifications.



E-signature history

Security, auditing, and e-signature software records test events, actions taken, dates, user names, user roles, and activity performed, for documentation and archiving purposes.



Reagent tracking

Stores and archives information about reagents used with each test, including lot number and expiration date, with each run. Archived files can be retrieved when required to track samples that were tested with a given set of reagents.



Experimental results

Report output records details for documentation, archiving, and review-at-a-glance needs, including experiment name, barcode, file name, time stamps (creation, run start, run finish, duration, and modifications), instrument name, serial number, experiment type, results summary, plate layout image, standard curves, results table, QC summary plate, set of reagents, run date and time, and data files.



Sample tracking

Tracks sample name and type. Captures critical sample data, with parameters customizable to fit the laboratory's needs. Enables laboratories to more easily track samples associated with a particular plate, set of reagents, run date and time, and data files.

Get more details at [thermofisher.com/quantstudio5dx](https://www.thermofisher.com/quantstudio5dx)

Trusted and proven diagnostic performance

QuantStudio Dx and 7500 Fast Dx Real-Time PCR Systems

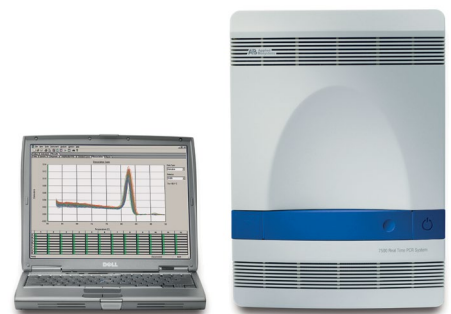
The Applied Biosystems™ QuantStudio™ Dx Real-Time PCR System is a streamlined instrument with intuitive software designed to simplify molecular test development and enhance efficiency for your customers, from sample processing to reporting. The simplified workflow requires no instrument programming. In addition, the QuantStudio Dx instrument delivers results to a laboratory information system, helping reduce the workload for busy technologists.

- The flexibility you need with formats available specifically for test development
- An IVD platform that can grow with your development needs

The Applied Biosystems™ 7500 Fast Dx Real-Time PCR Instrument is designed to deliver the performance required for high-quality results, in 96-well format, while minimizing the effort required to perform sample setup. The system comes with SDS software that allows for full control over thermal cycling protocols to further assist in developing or running custom assays.

- Accommodates 96-well plates and tube strips, which can be capped immediately after pipetting each sample
- Fast mode completes runs in less than 40 minutes
- Optional standard mode facilitates the use of standard-length real-time PCR assays without changing thermal cycling parameters
- 5-color variable excitation enables multiplex assays
- Proven performance

Both systems are available with either a laptop or desktop computer.



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

Specifications

	QuantStudio Dx system	7500 Fast Dx system
Sample capacity	96 wells or 384 wells	96 wells
Reaction volume	96-well 0.1 mL block:* 10–30 µL 96-well 0.2 mL block:** 10–100 µL 384-well block:** 5–20 µL TaqMan Array Card block:** ~1.5 µL	96-well 0.1 mL block: 10–30 µL or 8-tube strips optimized for 10 µL reactions
Excitation source	Bright white LED	Halogen lamp
Filter or color combinations	6 (21 filter combinations)	Up to 5
Excitation/detection range	450–670 nm/500–720 nm	455–650 nm/505–696 nm
Multiplexing	Up to 5 or 6 targets	Up to 4 or 5 targets
Average sample ramp rate	3.66°C/sec	3.5°C/sec (fast mode) 1.6°C/sec (standard)
Temperature uniformity	±0.5°C	±1°C
Temperature range	4–99.9°C	4–99.9°C
Sensitivity	1.5-fold in singleplex reactions	2-fold in singleplex reactions
Run time	Less than 35 min	Less than 40 min
Compatible dyes	FAM, SYBR Green, VIC, JOE™, TET™, ABY™, NED, TAMRA, Cy®3, JUN, ROX, Texas Red, Mustang Purple, Cy®5, LIZ, Cy®5.5	FAM, SYBR Green, VIC, JOE, NED, TAMRA, Cy3, ROX, Texas Red, Cy5
Auditing	Audit trails can be enabled/disabled depending on traceability needs.	Audit trails can be enabled/disabled depending on traceability needs.

Development/IUO*

	QuantStudio Dx system	7500 Fast Dx system
Formats	96-well 0.1 mL, 96-well 0.2 mL, 384-well, TaqMan Array Card	NA
Reaction volume	96-well 0.1 mL: 10–30 µL 96-well 0.2 mL: 10–100 µL 384-well: 5–20 µL TaqMan Array Card: ~1.5 µL	NA
Maximum block ramp rate	96-well 0.1 mL: 9.0°C/sec 96-well 0.2 mL: 6.5°C/sec 384-well: 6.0°C/sec TaqMan Array Card: 3.0°C/sec	NA

RUO**

	QuantStudio Dx system	7500 Fast Dx system
Formats	96-well 0.1 mL, 96-well 0.2 mL, 384-well, TaqMan Array Card	96-well 0.1 mL
Reaction volume	96-well 0.1 mL: 10–30 µL 96-well 0.2 mL: 10–100 µL 384-well: 5–20 µL TaqMan Array Card: ~1.5 µL	96-well 0.1 mL: 10–30 µL or 8-tube strips optimized for 10 µL reactions
Maximum block ramp rate	96-well 0.1 mL: 9.0°C/sec 96-well 0.2 mL: 6.5°C/sec 384-well: 6.0°C/sec TaqMan Array Card: 3.0°C/sec	5.5°C/sec

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CE-IVD

	QuantStudio Dx system	7500 Fast Dx system
Formats	96-well 0.1 mL, 96-well 0.2 mL, 384-well, TaqMan Array Card	96-well 0.1 mL
Reaction volume	96-well 0.1 mL: 10–30 μ L 96-well 0.2 mL: 10–100 μ L 384-well: 5–20 μ L TaqMan Array Card: ~1.5 μ L	96-well 0.1 mL: 10–30 μ L or 8-tube strips optimized for 10 μ L reactions
Maximum block ramp rate	96-well 0.1 mL: 9.0°C/sec 96-well 0.2 mL: 6.5°C/sec 384-well: 6.0°C/sec TaqMan Array Card: 3.0°C/sec	5.5°C/sec

US-IVD

	QuantStudio Dx system	7500 Fast Dx system
Formats	96-well 0.1 mL	96-well 0.1 mL
Reaction volume	96-well 0.1 mL: 10–30 μ L	96-well 0.1 mL: 10–30 μ L or 8-tube strips optimized for 10 μ L reactions
Maximum block ramp rate	96-well 0.1 mL: 9.0°C/sec	5.5°C/sec



Keep your real-time PCR systems up and running with superior services and support

Maximize uptime, reduce repair costs and turnaround time, extend the life of your instrument, and help keep it running at peak performance with one of our comprehensive service plans. Choose from a variety of service options that balance your budget, productivity, uptime, and compliance needs.

Our service plans include digital service innovations and pioneering on-demand tools such as remote support using augmented-reality technology, instrument-driven support, and on-demand instrument training.

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

Comprehensive instrument warranty

Our factory-trained and certified field service engineers (FSEs) are focused on delivering the highest-quality workmanship. During the warranty period, all qualifying repairs, as well as engineer time and travel, are covered.

Flexible service plans help reduce downtime

Choose from a variety of service options that balance your budget, productivity, and uptime. Plans start with the most basic repair models and scale to premium offerings, including advanced support and compliance services. On-site service plans are optimal for labs that have time-sensitive work and need to get their instrument back online quickly. These plans include guaranteed response times in most regions, scheduled planned maintenance, and automatic software updates. The AB Repair Center plan is the cost-effective choice for customers who can allow their instrument to be sent away for repair—this plan provides a loaner instrument so that customers can maintain productivity while their instrument is being repaired.

Smart Remote Support maximizes uptime

Smart Remote Support leverages augmented reality (AR) technology to include a real-time video/audio collaboration tool and an advanced remote desktop support tool. The tool enables more robust remote support, which can increase instrument uptime by eliminating the need for an on-site service visit or increasing the chances of a first-time fix.

See more of our digital service innovations at thermofisher.com/innovations

Technical support

If you have questions about product selection or use, assay or experimental design, data analysis, or troubleshooting, contact our team of technical support scientists or access our online product and application support tools.

How to reach us

Find your local support or technical support team at thermofisher.com/contactus

See product FAQs, protocols, training courses, and webinars at thermofisher.com/technicalresources

Contact a computer system validation (CSV) specialist at thermofisher.com/csv



Get your instrument up and running
2x faster with our on-site service plans

Service plans at a glance

	On-site service plans		
	AB Complete	AB Assurance	AB Maintenance Plus
On-site response time	Guaranteed next business day*	Guaranteed 2 business days*	Target 2 business days*
Scheduled on-site planned maintenance (PM)	•	•	•
Remote diagnostics	•	•	•
Parts, labor, and travel for repair included	•	•	10% discount optional add-on in selected regions
Computer repair and replacement included	•	•	
Priority access to Technical Support (Mon–Fri, 8 a.m.–5 p.m. local time)	•	•	
Priority access to Remote Service Engineer	•	•	
Requalification post-PM and critical repairs	•		
Field Applications Scientist consultation	•		

* Response times vary by region.

Qualification services

Instrument hardware qualifications for QuantStudio Real-Time PCR Systems include installation qualification (IQ) and operational qualification (OQ) to document and verify that instruments are installed and operating according to the manufacturer’s specifications. An IQ/OQ is recommended at installation and when moving the instrument. Our qualification specialists will partner with you to deliver timely, cost-effective, and trusted qualification services that include reliable, audit-style documentation that will help ensure your instruments meet regulatory requirements.

Contact an instrument qualifications specialist at [thermofisher.com/iqoqpq](https://www.thermofisher.com/iqoqpq)

Computer system validation services

Laboratories operating under GAMP™5, 21 CFR Part 11, and Annex 11 security auditing and e-signature compliance require validation of instrument computer systems to help ensure accurate, reliable, and consistent records. To help reduce compliance risk, our computer system validation (CSV) consulting services provide flexible and comprehensive, audit-style documentation packages that help customers to comply with regulations and standards. The services are managed and delivered by an experienced compliance specialist and help ensure that electronic records are generated, maintained, and archived in an accurate, reliable, and secure manner.

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

Education services

It can be difficult to prepare yourself for what’s next while you’re focused on the work you have now. Our professional, interactive training courses make it easier.

We offer a combination of virtual and in-person classroom instruction, and hands-on learning in your lab to match your schedule, budget, and learning preferences. Whichever course style you choose, you’ll learn from one of our 300 highly skilled application scientists who are available to lead sessions online, at your location, or at one of our 12 training centers located worldwide.

Explore courses at [thermofisher.com/educationservices](https://www.thermofisher.com/educationservices)

OEM and commercial supply

Design your own molecular assay using our master mixes, assays, and instruments. We have a specialized offering for our OEM partners including lyo-ready reagents, lyophilization, kitting, and custom services. When you bring our experienced OEM team on board, whether your project is large or small, your commercialization goals become our goals. By leveraging our superior combination of quality, global distribution, and professional commercial services and support, you can maximize your efficiency and scale while minimizing risk.

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

Explore our services and support solutions at [thermofisher.com/instrumentservices](https://www.thermofisher.com/instrumentservices)

High-performance real-time PCR plastics for optimal qPCR results

MicroAmp qPCR plastics

Applied Biosystems™ PCR plastics have been designed and tested to work with our instruments and enable optimal performance.

Applied Biosystems™ MicroAmp™ qPCR plastics are:

- Verified on Applied Biosystems thermal cyclers for optimal fit and performance
- Designed to perform on all Applied Biosystems IVD qPCR instruments
- Designed for optimal heat transfer with thin-walled polypropylene wells
- Designed to reduce cross-contamination with raised well rims for effective sealing



applied biosystems
by Thermo Fisher Scientific

Which qPCR plastic fits your needs?

Find the plastic format with the throughput and features for your application

Applied Biosystems™ MicroAmp™ EnduraPlate™ optical microplates, GPLE	
Formats	<ul style="list-style-type: none">• 96-well• 96-well Fast• 384-well
DNA-, RNase-, and PCR inhibitor-free	Yes
ANSI/SBS standard dimension color	Clear
Instrument compatibility	Use our plastics selection tool
Barcode	Yes (3 sides)
Multiple application	Yes
Optical compatibility	Yes



Find the plastics and accessories you need for your instrument quickly

Product		QuantStudio 5 Dx system	QuantStudio Dx system	7500 Fast Dx system
96-well, 0.2 mL reaction plates				
MicroAmp Optical 96-Well GPLE Reaction Plate (10 plates)	4481191	•		
MicroAmp Optical 96-Well GPLE Reaction Plate with Barcode (10 plates)	4481192	•		
MicroAmp EnduraPlate Optical 96-Well GPLE Clear Reaction Plates with Barcode (20 plates)	4483348	•		
MicroAmp EnduraPlate Optical 96-Well GPLE Clear Reaction Plates with Barcode (500 plates)	4483351	•		
96-well, 0.1 mL reaction plates				
MicroAmp Fast Optical 96-Well GPLE Reaction Plate, 0.1 mL (10 plates)	4481190		•	•
MicroAmp EnduraPlate Optical 96-Well Fast GPLE Clear Reaction Plates with Barcode (20 plates)	4483481		•	•
384-well reaction plates				
MicroAmp EnduraPlate Optical 384-Well GPLE Clear Reaction Plates with Barcode (20 plates)	4483319		•	
Seals and covers				
MicroAmp Optical Adhesive Covers GPLE (25 films)	A49767	•	•	•
Accessories				
Splash-Free 96-Well Base	4312063	•	•	•
96-Well Support Base	4379590	•	•	•

TaqPath master mixes for real-time PCR

Enabling confidence and compliance for development

With superior quality and excellent performance, Applied Biosystems™ TaqPath™ master mixes are designed to deliver confidence and performance for even your most demanding applications. With over 10 years of leadership in clinical real-time PCR, we are committed to providing you with trusted, versatile, and innovative tools.

Applied Biosystems™ TaqPath™ products feature fluorogenic 5′ nuclease chemistry. TaqPath reagents are General Purpose Reagents and are labeled for Laboratory Use. They are manufactured in an ISO 13485 facility.

TaqPath qPCR Master Mix, CG for DNA detection

Applied Biosystems™ TaqPath™ qPCR Master Mix, CG, is a 2X formulation designed for gene expression and miRNA analysis. They deliver confident results in both single and duplex reactions, even in the presence of inhibitors. All lots are functionally tested to help ensure lot-to-lot reproducibility for C_t consistency and dynamic range across a wide variety of assays.

TaqPath ProAmp Master Mix and TaqPath ProAmp Multiplex Master Mix

Applied Biosystems™ TaqPath™ ProAmp™ master mixes are our most inhibitor-tolerant DNA detection master mixes. They have the ability to detect up to four targets in one reaction, providing high specificity and reproducibility. They have a wide dynamic range compatible with multiplexing applications, and they are tolerant of inhibitors commonly found in clinical samples prepared from human sources (buccal swabs, blood, and card punches). All TaqPath ProAmp master mixes also feature 72-hour pre-PCR benchtop stability for automated workflows.

TaqPath 1-Step RT-qPCR and TaqPath 1-Step Multiplex Master Mixes

Applied Biosystems™ TaqPath™ 1-Step RT-qPCR master mixes are 4X formulations designed for one-step processing of RNA and DNA targets. These mixes offer superior sensitivity to detect low-copy targets with reproducible C_t results, provide inhibitor tolerance in challenging sample types, and deliver high specificity and wide dynamic range. Versions with ROX passive reference dye, and versions designed specifically for multiplexing and formulated with either Mustang Purple passive reference dye or without ROX dye, are available.

Applied Biosystems™ TaqPath™ 1-Step Multiplex Master Mix allows for additional exogenous or endogenous controls or targets to be run simultaneously for quality control or increased efficiency. Both the mix containing Mustang Purple passive reference dye and the no-ROX mix can be used in conjunction with Applied Biosystems™ TaqMan® probes with FAM, VIC, ABY, and JUN dyes and QSY™ quenchers to provide detection of four targets in a single reaction.

Get more information at [thermofisher.com/qpcrmm](https://www.thermofisher.com/qpcrmm)

TaqPath master mix overview

Chemistry	TaqPath reagents
Chemistry overview	Uses a fluorogenic probe to enable detection of a specific PCR product as it accumulates during PCR cycles
Specificity	High
Sensitivity—low copy number	High
Reproducibility	High
Multiplexing	Yes
General purpose reagent	Yes
Overview for use in test development mode	
Predesigned assays	Yes
Custom assays	Yes
User design and optimization required	No
Gene expression quantitation	High
DNA quantitation ChiP	Yes
SNP genotyping	Yes
MicroRNA	Yes
Copy number variation	Yes
Somatic mutation detection	Yes
Pathway analysis	Yes

Custom TaqMan probes

The gold standard for qPCR applications

Applied Biosystems™ custom fluorophores and quenchers offer unprecedented flexibility for assay development while delivering the quality, performance, and reliability of gold-standard Applied Biosystems™ TaqMan® chemistry. Our probes deliver outstanding signal-to-noise ratios, reproducibility, and are synthesized using the same raw materials and expertise know-how as our pre-designed Applied Biosystems™ TaqMan® Assays. Additionally, our GMP oligos service provides the traceability needed to meet all your regulatory requirements. Leverage the expertise and flexibility of TaqMan probes when designing your next laboratory-developed test (LDT) or analyte-specific reagent (ASR).

TaqMan MGB Probes

Applied Biosystems™ TaqMan® MGB Probes are dual-labeled probes with a 5' reporter and a 3' nonfluorescent quencher (NFQ). These are set apart from other probe-based chemistries by the inclusion of a minor groove binder ("MGB") moiety at the 3' end that increases the melting temperature (T_m) of the probe and stabilizes probe-target hybrids (Figure 1). TaqMan MGB probes can be significantly shorter than traditional probes, providing better sequence discrimination and flexibility to accommodate more targets.

TaqMan QSY Probes

Applied Biosystems™ TaqMan® QSY™ Probes provide the perfect complement to TaqMan MGB Probes for multiplexing several targets within a single reaction. Multiplexing enables cost savings and preservation of limited samples, while yielding comparable results between reactions performed in individual tubes and in 4-plex reactions (see Figure 2).

TaqMan QSY probes are also ideal for direct conversion of BHQ probe designs and can be ordered with FAM, VIC, and our proprietary ABY and JUN dyes (see Figure 3), allowing amplification of up to 4 targets in a single reaction. All 4 dyes are optimized for the filter sets on the QuantStudio 5 Dx system and work together with minimal spectral overlap for optimal performance.

For more information on multiplexing, visit [thermofisher.com/multiplexingqpcr](https://www.thermofisher.com/multiplexingqpcr)

	Probe specifications		
	MGB	QSY	TAMRA
5' reporter dye options	FAM™, VIC™, TET™, NED™ dyes	FAM™, VIC™, ABY™, JUN™ dyes	FAM™, VIC™, TET™ dyes
Form	Liquid		
Includes	Probe set		
Purification	HPLC		
Shelf life	12 months from manufacturing date		
Green features	Less waste and sustainable packaging		

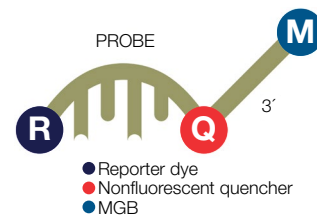


Figure 1. TaqMan MGB probe with minor groove binder (MGB) moiety at 3' end.

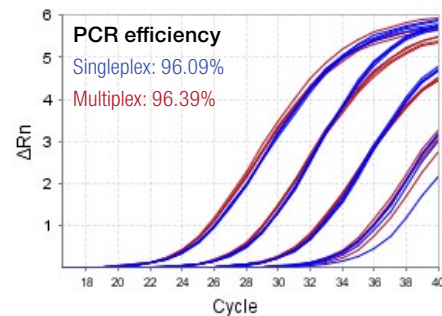


Figure 2. Comparable results for singleplex and multiplex assays.

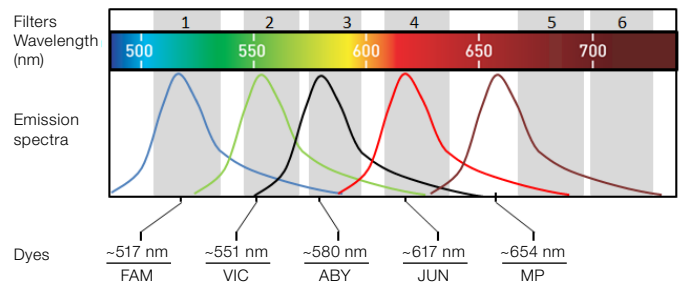


Figure 3. Fluorescence emission spectra of FAM, VIC, ABY, and JUN dyes used for multiplex real-time PCR.

TaqMan TAMRA Probes

Applied Biosystems™ TaqMan® TAMRA™ Probes feature a 5' fluorescent reporter dye (FAM, VIC, or TET) and 3' fluorescent quencher (TAMRA dye). TaqMan TAMRA probes continue to be offered in support of legacy products and protocols featuring this quencher.

Real-time PCR resources

Do you want to learn more about real-time PCR? Find answers to common questions and learn the basics in our online education hub. Make your results “ever better” by improving your knowledge at your own pace.

Real-time PCR	Key online resources
Master mix sample request	thermofisher.com/gprmm-sample
Instrument Management tool	thermofisher.com/easiertomanage
Real-time PCR Learning Center, which includes articles, videos, and webinars	thermofisher.com/qpcr-education
Ask TaqMan videos	thermofisher.com/asktaqman
qPCR handbook	thermofisher.com/qpcr-handbook
Behind the Bench blog	thermofisher.com/blog/behindthebench
General qPCR support	thermofisher.com/qpcr-support
Training offered	thermofisher.com/events
Real-time PCR data analysis	thermofisher.com/qpcr-data
qPCR troubleshooting tool	thermofisher.com/qpcr-troubleshooting

Find out more for clinical workflow support at thermofisher.com/dxdev and for Test Development at thermofisher.com/qpcr

Find out more at thermofisher.com/dxdev