QIAGEN

See qPCR in a New Light

QIAquant® 96 and 384 thermal cyclers to boost your qPCR workflow

- Available in 96-well block and 384-well block
- Fast cycling protocol, down to 30 minutes for 40 cycles
- Multiplex detection of up to 5 different targets
- Gradient function for assay optimization
- Temperature uniformity ±0.15°C at 55°C

Sample to Insight

The breadth of quantitative PCR (qPCR) applications and instruments available has grown significantly in the past years. An abundance of new technologies is available for researchers to compare and evaluate before integrating into their workflows.

It is increasingly challenging to find the right fit for your laboratory's application requirements. For best results, you need low operating costs, high throughput, the ability to multiplex with fast analysis times and reliable reproducibility.

The QIAquant instruments – fast,

Maximum flexibility to boost your workflow

1 system in **3** configuration

96- and **384**- sample block

Co-detection of up to **5 targets**

QIAquant different system configuration address different levels of throughput, multiplexing and budget

Subhead	QIAquant 96 2plex	QIAquant 96 5plex	QIAquant 384 5plex
Multiplex capacity	2 targets	5 targets	5 targets
Sample capacity	96 samples	96 samples	384 samples
Control	Touchscreen or PC	Touchscreen or PC	PC

Seamless integration

The QIAquant instruments are

- Designed for convenience, ease of use and reliability, from setup to interpretation
- Factory-calibrated for optical and thermal accuracy, quick installation, and immediate use
- Open systems and all qPCR chemistries may be used

The QIAquant instruments can

- Process quantitative real-time PCR in either intercalating dye or hydrolysis probe-based assays
- Compatible with standard SBS 96- or 384-well plate format, strips and tubes
- Operate as stand-alone or connected to a computer

As the list of features and specifications grows, an understanding of some of the key performance benefits — precision, uniformity, dynamic range and resolution — becomes critical.

The QIAquant instruments bring precise temperature control and enhanced gradient functionality together in their sample blocks, generating more accurate results and raising your qPCR workflow to the next level. This boost is supported by performance characterization studies and powered by software that streamlines the analysis and interpretation of results.

versatile automation for qPCR

Greater speed and superior temperature uniformity

Accurate temperature control and high heat conductivity materials

Block uniformity down to **0.15°C**

High performance thermal elements and fast multi-channel detection reduce cycling times

40 cycles in **30** minutes

Fast and accurate sample block technology

Temperature control
±0.1°C

Heating/cooling
Up to 8°C/second

Block temperature range from
4°C to 99°C

Motorized heated lid applies even pressure with temperature control from
30°C to 110°C

Precise linear gradient function

- Optimize assays with easy determination of the optimal temperature for primer annealing
- Program a temperature gradient at any step in a protocol
- Use a margin gradient or set different integer temperature levels with the Linear Gradient Tool (LGT)

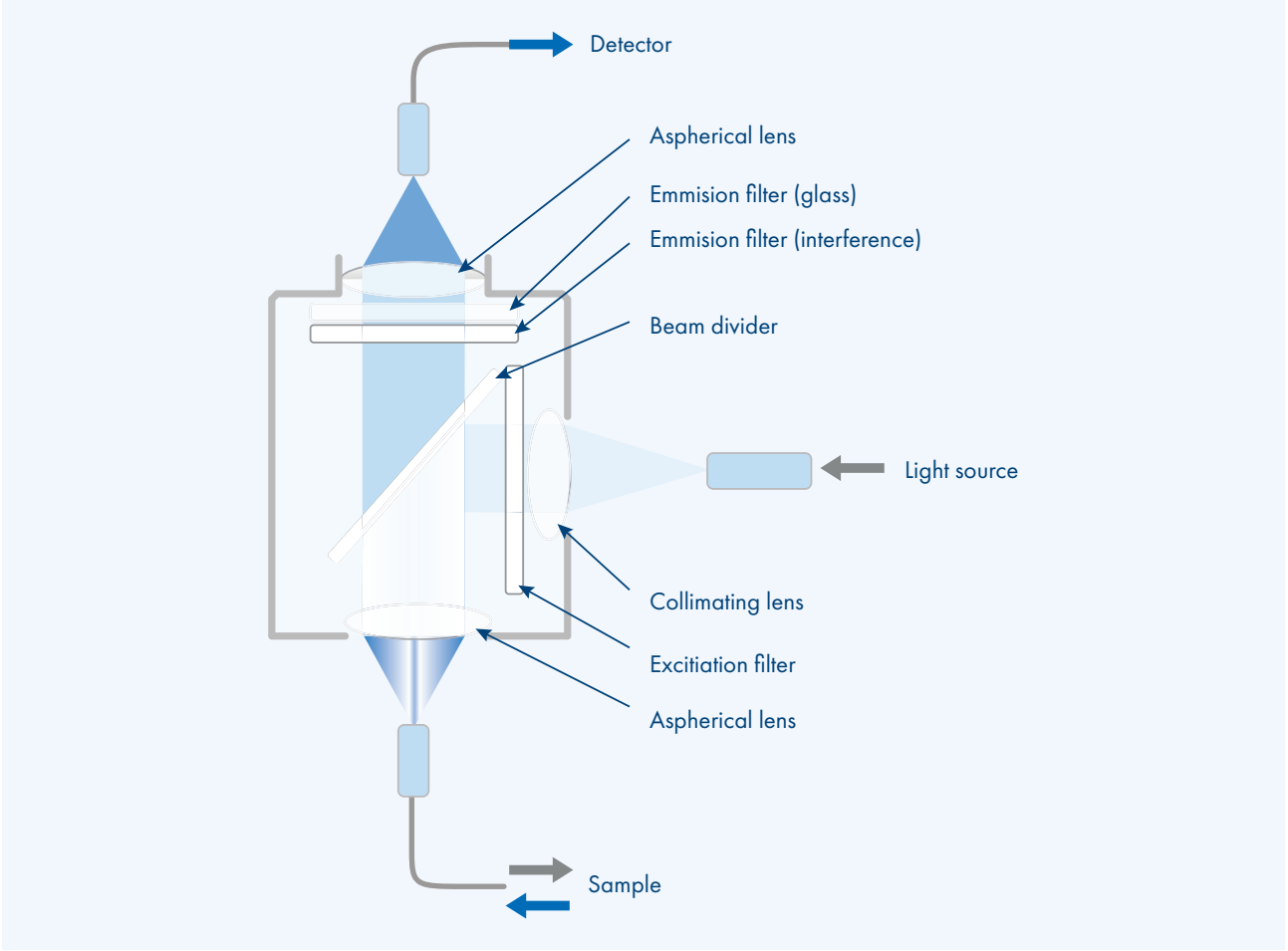
20–40°C span in **0.1°C** increments

Powerful fiber-optic shuttle system

The patented system guarantees sensitive individual excitation and emission reading with no cross-talk between wells.

The QIAquant Software has optimized generic cross-talk compensation and customized color compensation files can be created.

The system does not require the use of a reference dye and regular calibration is not needed.



Channel	Excitation (nm)	Detection (nm)	Examples of fluorophores detected
Blue	465±15	524±12	FAM™, SYBR® Green, EvaGreen®
Green	510±15	565±15	JOE™, HEX™, VIC®
Orange (5plex versions only)	560±15	610±15	ROX™, Texas Red®
Red (5plex versions only)	625±10	680±15	Cy5®, Alexa Fluor® 647
NIR 1 (5plex versions only)	625±10	710±20	Cy5.5®, Quasar® 705

Error-proof your qPCR with QuantiNova kits

QuantiNova® qPCR kits and LNA panels ensure accurate, robust and high sensitivity detection of a single target copy including co-quantification of targets with differing abundance in a single tube. This is thanks to innovative technologies that contribute to error-free qPCR such as visual pipetting control, gDNA removal, room-temperature setup and internal DNA and RNA controls.

QuantiNova kits family provides a solution for all qPCR applications such as multiplex PCR, one- or two-step RT-PCR, for both SYBR and probe assays. Kits enable fast and reliable quantification of up to 5 cDNA or gDNA targets in a single tube by multiplex real-time PCR or two-step RT-PCR.

miRCURY® LNA and QuantiNova LNA assays and panels provide highly robust gene expression and regulation analysis. Choose from the broadest selection of predesigned, wet-lab validated assays or design your own on GeneGlobe® for detection of miRNA, mRNA and lncRNA.

Simple operation with the QIAquant Software

The QIAquant instruments are operated with the QIAquant Software via desktop or the touchscreen.

The QIAquant Software package

- Supports all current state-of-the-art real-time analysis procedures from basic to advanced algorithms
- Provides complex data analysis functions for advanced researchers
- Remains suitable for use by novices

Data security is assured and all process steps are trackable from start to export of results.

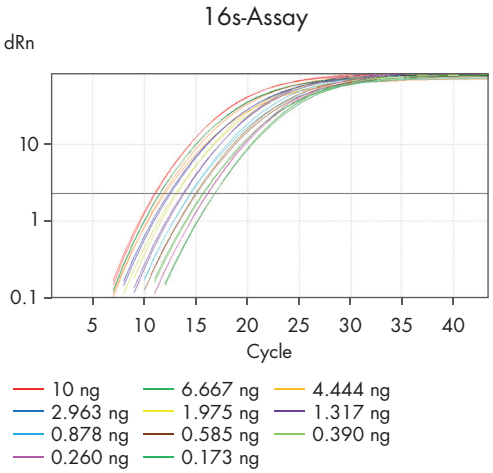
QIAquant Software analysis methods	Copy number variation, relative quantification, $\Delta\Delta C_t$ method, genotyping, efficiency calculation, melting curves analysis, multiplate analysis, POS/NEG analysis in the end point
Import functions	From LIMS
Export format	Excel, CSV (compatible GenEx, qBase)
Compatibility 21 CFR part 11	Yes
User management	Yes
Preset PCR protocols	Yes
Software license	Free – can be installed on multiple computers
Minimum system requirements	Windows 7 or higher, Processor Min. Intel Core i3, >1 GHz, RAM 1 GB, available hard disk space Min. 300 MB, interfaces Min. USB 2.0

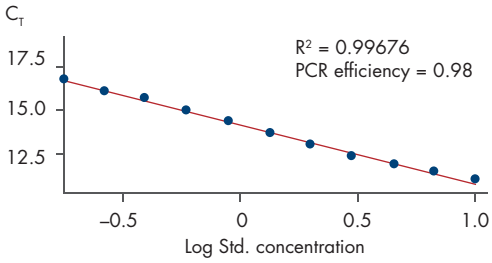
Broad compatibility with plasticware

SBS sample blocks make the QIAquant systems compatible with the majority of tubes, strips and low- or normal- profile plates, skirted, half-skirted or unskirted.

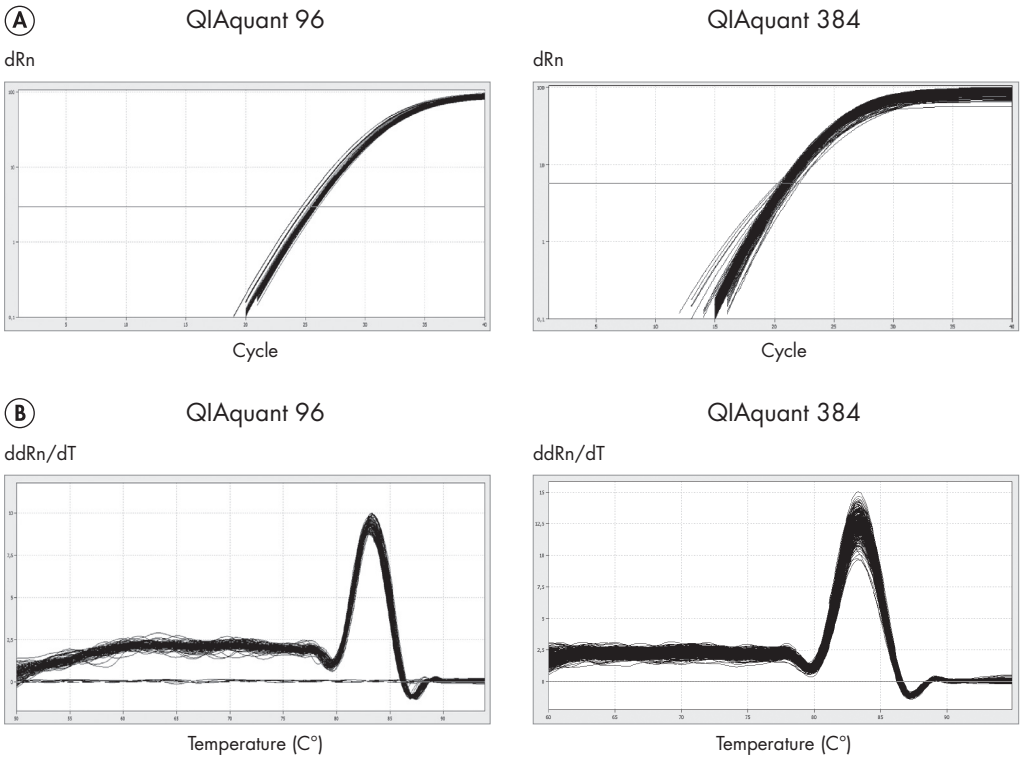
For optimal performance, QIAGEN recommends the used of dedicated qPCR consumables with white-well and optically clear foils or seals. **Visit the QIAquant consumables page** for a selection of compatible qPCR plates and foils from QIAGEN.

Precision and uniformity





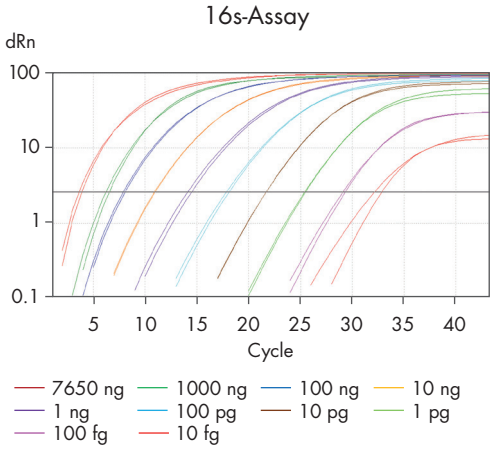
Confident resolution of 1.5-fold dilutions. *E.coli* 16S was amplified from a 1.5-fold dilution series with template concentration ranging from 0.173 ng to 10 ng using QuantiNova SYBR® Green PCR Kit, in duplicates. Results show clear discrimination of the different dilutions for precise and confident quantification.

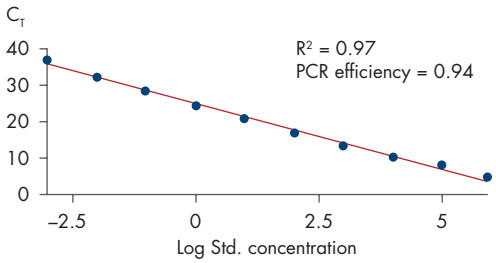


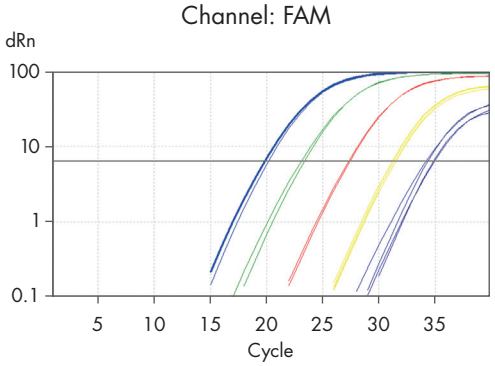
Block uniformity on the QIAquant 96 and QIAquant 384. Amplification curves **A** and melting curves **B** of respectively 96 and 384 replicates on QIAquant 96 and QIAquant 384. Real-time PCR was done using 100 ng of *E.coli* DNA in each of the 96 and 384 block positions. **A** Amplification curves of 300 bp amplicon of the 16S using QuantiNova SYBR® Green PCR Kit. **B** melting curve analysis of the amplicons. Low variation of Cq values (SD < 0.2) and Tm of the melt curves (SD < 0.1) demonstrate demonstrated temperature uniformity across the block of the QIAquant 96 and QIAquant 384.

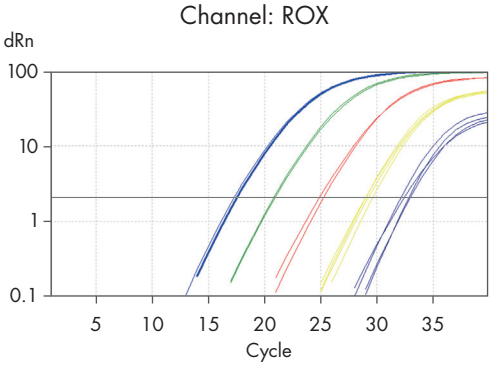
Fine resolution and consistent linearity

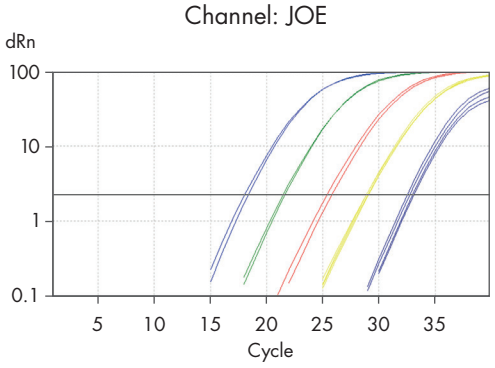
10-log Dynamic range of the QIAquant detection system. *E.coli* 16S was amplified from template concentration ranging from 10fg to 7650ng in 20µL reactions volume, in duplicates using QuantiNova SYBR® Green PCR Kit. C_T value of sample range from 3.64 to 32.37 show broad dynamic range of the QIAquant and excellent linearity and resolution down to single copies.

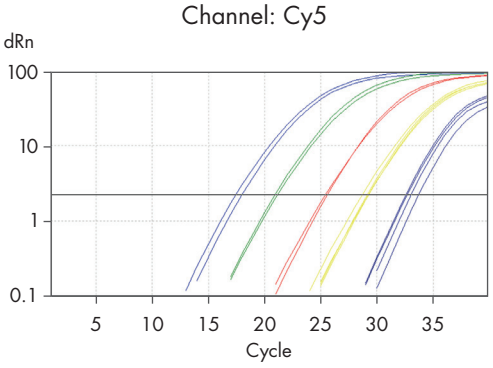








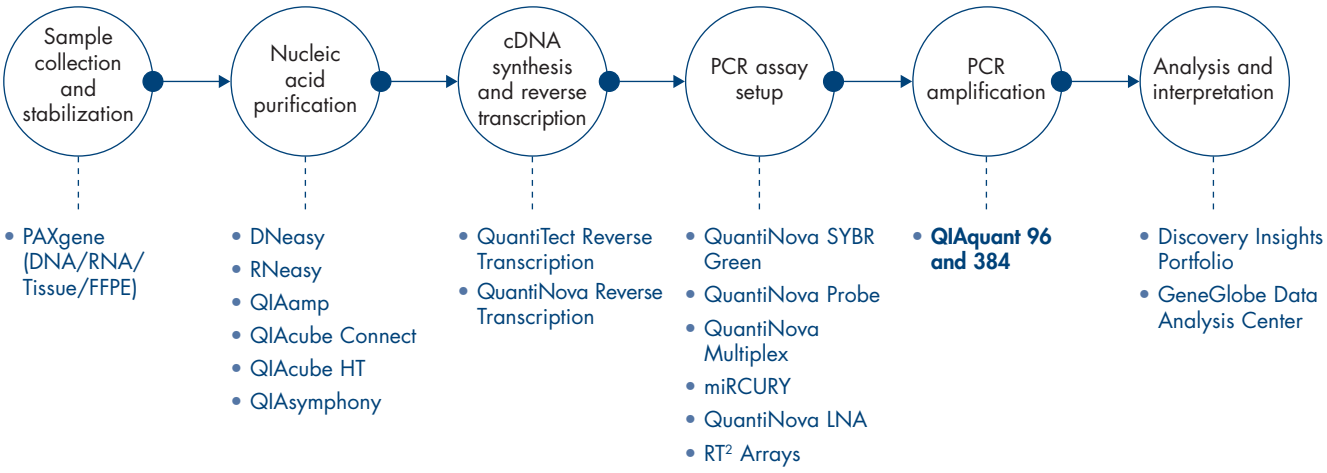




Multiplex experiment with blue, green, orange and red channels. Titration of male DNA showing sensitivity of detection with probes from Investigator® Quantiplex® Pro Kit. DNA concentrations are 50, 5, 0.5, 0.05 and 0.005 ng/µl.

Accurate and reproducible results in qPCR workflows

Get maximum convenience, flexibility and superior results when combing QIAquant systems with QIAGEN consumables and kits. Our automation solutions and optimized chemistries seamlessly integrate into your daily work and help you quickly convert your biological samples into valuable molecular insights. Our automated Sample to Insight solutions will standardize every step of your workflow and deliver the reproducible, high-quality data you need.



Visit **www.qiagen.com/qiaquant** for more information.

Additional technical specifications

	QIAquant 96 (2plex and 5plex)	QIAquant 384 5plex
Catalog number	QIAquant 96 2plex, 115V : 9003000 QIAquant 96 2plex, 230V : 9003001 QIAquant 96 5plex, 115V : 9003010 QIAquant 96 5plex, 230V : 9003011	QIAquant 384 5plex, 115V : 9003020 QIAquant 384 5plex, 230V : 9003021
Block materials	Silver sample block with gold coating	Aluminum, special alloy
Sample volume	5–100 µl (10 to 80 µl recommended)	2–30 µl (5 to 20 µl recommended)
Max. heating rate	max. 8°C/s, av. 7°C/s (depending on consumables used)	max. 4°C/s, av. 3.8°C/s (depending on consumables used)
Max. cooling rate	max. 6°C/s, av. 5.5°C/s (depending on consumables used)	max. 2°C/s, av. 1.7°C/s (depending on consumables used)
Heating rate adjustment	min. 0.1°C/s	
Temperature uniformity (15 s after starting the clock)	±0.15°C at 55°C ±0.25°C at 72°C ±0.50°C at 95°C	
Warranty	1-year	
Heated lid	Manual opening mechanism, automatic contact pressure	
Heated lid contact pressure	30 kg	
Noise level	45 dB	
Power consumption (max.)	max. 850 W	
Supported plastic products	96-well micro titer plates with optical sealing film 8-well strips 0.2 ml with optical lids 0.2 ml individual vessels with optical lids	384-well PCR plates with optical sealing film
Sensitivity	1 nmol/l FAM at 30 µl sample volume in a 96-well PCR plate	1 nmol/l FAM at 30 µl sample volume in a 384-well PCR plate
Light source	Four high-intensity LEDs (blue, green, white, red)	
Detector	Photo Multiplier (PMT)	
Control of the instrument	Desktop software and/or with built-in 10 in. touchscreen	Desktop software

For your peace of mind, partner with QIAGEN Service Solutions

You can partner with our highly skilled QIAGEN service solutions team. We are committed to working with you to optimize your laboratory workflow, increase your instrument uptime, and obtain certification through technical consultation, instrument service, and Lean methodologies. **Review our services**.

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