Real-time PCR solutions from sample preparation to data analysis

For over a quarter century, we’ve provided you with reliable reagents, instruments and software for all your qPCR workflow needs. Whether you’re doing sample preparation, reverse transcription, amplification and detection using Applied Biosystems™ TaqMan™ or Applied Biosystems™ SYBR™ chemistry on our real-time PCR instruments, or data analysis, you can continue to trust us to support your research with high-quality products and service designed to help you get consistently excellent data.

Sample preparation

**Applied Biosystems™ TaqMan™ Gene Expression Cells-to-C_t™ Kit**
Easily perform expression analysis using cultured cells without purification of RNA. Reagents are included for cell lysis and RNA preservation, genomic DNA removal and reverse transcription.

**Ambion™ mirVana™ miRNA Isolation Kit**
Isolate total RNA containing small RNAs such as miRNA, siRNA and snRNA. This kit includes reagents to enrich for small RNA (<200bp), enabling sensitive detection of low levels of small RNAs.

**Applied Biosystems™ Arcturus™ PicoPure™ kits**
Isolate RNA or extract DNA from laser-capture micro-dissected (LCM) samples. Easily perform expression analysis from as little as a single LCM cell.

**Applied Biosystems™ Arcturus™ Paradise™ kits**
Isolate RNA from formalin-fixed, paraffin-embedded (FFPE) laser-capture microdissected (LCM) samples.

**Applied Biosystems™ Protein Expression Sample Preparation Kit**
Extract proteins from your target and control cell lysates for use with Applied Biosystems™ TaqMan™ Protein Assays.

**Applied Biosystems™ TaqMan™ Sample-to-SNP™ Kit**
Offers a streamlined protocol for performing TaqMan chemistry–based genotyping analysis on any sample.

**Applied Biosystems™ MagMAX™ DNA Multi-Sample Kit**
Designed for rapid purification of high-quality genomic DNA from a variety of sample types, including blood and blood cards, tissue, mouse tails, buccal swabs, buffy coats and cultured cells.
TaqMan Assays by application

**Gene expression analysis**
Applied Biosystems™ TaqMan™ Gene Expression Assays offer 1.3 million primer/probe sets for 24 species and selected pathogens, with your choice of Applied Biosystems™ FAM™ or VIC™ dye labels.

Applied Biosystems™ Custom Plus Assay kits and standard custom assay kits enable you to study the expression of any gene or splice variant in any organism.

**Drug metabolism genotyping**
Choose from over 2,700 unique Applied Biosystems™ TaqMan™ Drug Metabolism SNP Genotyping Assays to detect polymorphisms in all known high-value DME pharmacogenetic markers, including pharmaADME core markers.

**SNP genotyping**
Choose from 7 million predesigned human and mouse Applied Biosystems™ TaqMan™ SNP Genotyping Assays, or Applied Biosystems™ TaqMan™ Custom SNP Genotyping Assays, in various sizes.

**Protein expression**
Revolutionary Applied Biosystems™ TaqMan™ Protein Assays enable fast, easy identification and relative quantification of protein markers from limited quantities of cultured cells. Choose from predesigned assays, or create your own using your antibodies.

**MicroRNA and noncoding RNA analysis**
Innovative Applied Biosystems™ TaqMan™ Assay–based products and related tools, for miRNA and noncoding RNA research from isolation through discovery.
- Long noncoding RNA (lncRNA) quantification.
- miRNA profiling.
- pri-miRNA quantification.
- Small RNA quantification.
- Targeted miRNA quantification.
- Applied Biosystems™ TaqMan™ Advanced miRNA Assays using universal RT primer.

**Somatic mutation detection**
In addition, our Applied Biosystems™ Custom TaqMan™ Assay Design Tool lets you design and order a TaqMan Assay for gene expression or genotyping applications. Custom assay design services are available for any other design request.

For more information, go to [thermofisher.com/taqman](thermofisher.com/taqman)

**Choice of formats**
Applied Biosystems™ TaqMan™ Assays are available in single-tube format for maximum flexibility or can be plated in three different formats to minimize your effort and cost: Applied Biosystems™ TaqMan Array Plates for quick setup help to minimize human error; Applied Biosystems™ TaqMan™ Array Cards for ease of use in automation; and Applied Biosystems™ TaqMan™ OpenArray™ Plates for high throughput and lower cost per sample. Choose between predefined panels, flexible-content panels or custom options to design your panel.
Reverse transcription

**Invitrogen™ SuperScript™ VILO™ cDNA Synthesis Kit**
Provides high-quality reverse transcription, a streamlined workflow with maximum sensitivity and dynamic range.

**Applied Biosystems™ TaqMan™ Advanced miRNA cDNA Synthesis Kit**
Provides universal RT chemistry to prepare cDNA template for use with TaqMan™ Advanced miRNA Assays.

Master mixes for real-time PCR amplification

**Applied Biosystems™ TaqMan™ Fast Advanced Master Mix**
Superior performance for both routine and challenging real-time PCR experiments, which can be used in both standard and fast reactions and has excellent benchtop stability.

**Applied Biosystems™ TaqMan™ Universal Master Mix II**
Brings sensitivity and precision across a broad range of input target quantities, reliable detection of low copy number targets and accurate quantification to discriminate subtle differences in target abundance.

**Applied Biosystems™ TaqMan™ PreAmp Master Mix**
Preamplifies small amounts of cDNA without introducing amplification bias to the sample and stretches precious sample into many more real-time PCR reactions.

**Applied Biosystems™ TaqMan™ Multiplex qPCR Solution**
Multiplex qPCR is a simple, efficient and cost-effective solution for overcoming the challenges of limited samples and costly analysis. Our TaqMan Multiplex Solution consists of an Applied Biosystems™ TaqMan™ custom probe with QSY™ quencher, ABY™ and JUN™ dyes, and an optimized Applied Biosystems™ TaqMan™ Multiplex qPCR Master Mix using MUSTANG PURPLE™ dye as a passive reference. This solution enables you to perform up to a 4-plex reaction for gene expression and a duplex reaction for genotyping analysis on an Applied Biosystems™ real-time PCR instrument.

Learn more at [thermofisher.com/multiplexqpcr](http://thermofisher.com/multiplexqpcr)
**Applied Biosystems™ Power SYBR™ Green Master Mix**
Superior sensitivity and reproducibility without compromising performance across all real-time PCR systems.

**Applied Biosystems™ TaqMan™ Fast Virus 1-Step Master Mix**
Designed for reliable, highly sensitive DNA and RNA virus detection in commonly used sample types, even in the presence of common reaction inhibitors. A single-tube format allows for uniform handling and processing.

**Real-time PCR systems**

**QuantStudio™ 3 Real-Time PCR System**
A small, affordable solution connecting you to your data like never before. Designed to be the easiest to use and most interactive instrument, offering the high performance analysis expected from Applied Biosystems instruments.

- Easy-to-use intuitive software design enables easy experiment setup and an interactive system allows you to get results faster.
- Directly connect to Thermo Fisher Cloud to access and analyze your data anytime, from anywhere with an internet connection. Back up and share files to collaborate with colleagues worldwide.
- VeriFlex™ technology provides three independent temperature zones for precise control over your qPCR optimization.
- Factory calibrated for optical and thermal accuracy, the instrument is delivered ready for quick installation and use.

**Applied Biosystems™ TaqMan™ Protein Assay Core Reagents Kit with Master Mix**
Performs ligation and PCR steps for protein expression.

**Applied Biosystems™ QuantStudio™ 5 Real-Time PCR System**
A high-performance benchtop instrument giving you greater control of your experimental data. Interact with the latest advancements in touch-screen usability, access your data more easily than ever before and securely share your results with collaborators around the world.

- Multiplex with ease — six excitation filters and six emission filters offer 21 different color combinations, allowing a broad range of detection chemistries and maximum multiplexing.†
- Directly connect to Thermo Fisher Cloud to access and analyze your data anytime, from anywhere, with an internet connection. Back up and share files to collaborate with colleagues worldwide.
- VeriFlex technology provides six independent temperature zones for precise control over your PCR optimization.*
- Have confidence in your records — built-in security, auditing and electronic signature (SAE) package comes standard on the QuantStudio 5 system to assist you in 21 CFR Part 11 compliance.
- Protect your work with individual user accounts and the ability to lock a protocol template giving you peace of mind that only you control your runs.

†384-well format includes 5 colors; no VeriFlex Blocks temperature control.

**Applied Biosystems™ QuantStudio™ 6 Flex Real-Time PCR System**
Ideal for laboratories with multiple applications or end-users on a limited budget. With an upgradable path to an Applied Biosystems™ QuantStudio™ 7 Flex Real-Time PCR System to accommodate automation or TaqMan Array Cards, the QuantStudio 6 Flex system is the ideal qPCR platform if your needs change in the future.

- With one instrument, you can interchange between 96-well, 96-well Fast and 384-well formats.
- The intuitive software, easy touch-screen setup and effortless block change are designed to let you get started right away.
• Detect as small as 1.5-fold changes in singleplex reactions and with a 10-log dynamic range.

• Can be seamlessly upgraded to a QuantStudio 7 Flex system by a field service engineer to give you additional automation, throughput and multiplexing capabilities.

QuantStudio 7 Flex Real-Time PCR System
Delivers the proven reliability, sensitivity and accuracy of the Applied Biosystems™ ViiA™ 7 Real-Time System in a new industrial design. The QuantStudio 7 Flex system is optimized to enable the broadest range of quantitative PCR applications.

• Run hundreds of real-time PCR reactions effortlessly using TaqMan Array Cards integrated with the Twister™ Automation Robot. The QuantStudio 7 Flex system can maximize your throughput capabilities for automated environments.

• Optimized protocols, reagents and intuitive software are available for the broadest range of applications.

• Get improved well-to-well and instrument-to-instrument data accuracy with the OptiFlex™ System, featuring six decoupled excitation and emission filter channels, with 21 filter combinations for maximum multiplexing and chemistry flexibility.

Free data analysis software

Applied Biosystems™ qPCR Analysis Modules
A fast, powerful, flexible online data analysis solution that contains analysis module options for comparative C_t (also known as relative quantification), absolute quantification and genotyping. Applied Biosystems qPCR Analysis Modules offer increased analysis capacity and flexible features above our existing software solutions.

DataAssist™ Software
An easy-to-use data analysis tool that utilizes the comparative C_t (ΔΔC_t) method to rapidly and accurately quantify relative gene expression across a large number of genes and samples.

Applied Biosystems™ TaqMan™ Genotyper Software
For use with TaqMan SNP Genotyping Assays (predesigned, custom and DME) in combination with 48-, 96- and 384-well microtiter plates and Applied Biosystems™ OpenArray™ Genotyping Plates. It offers a state-of-the-art genotype-calling algorithm, an intuitive user interface and enhanced multi-plate analysis features.
Digital PCR

Need to extend the capabilities of real-time PCR?
Digital PCR is a new approach to nucleic acid detection and quantification that uses molecular counting. It offers an alternate method to conventional real-time quantitative PCR for absolute quantification and rare-allele detection without the use of a standard curve.

A simple and affordable platform, the Applied Biosystems™ QuantStudio™ 3D Digital PCR System produces absolute quantification data with the precision and sensitivity you need for your more demanding applications.

Find out more at thermofisher.com/quantstudio3d

For more details about all these products and more, go to thermofisher.com/taqman

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