

TaqMan® Assays and reagents

The TaqMan® Assay family is the most comprehensive set of products available for gene expression, noncoding RNA, copy number variation, SNP genotyping analysis, mutation detection, and protein expression—from off-the-shelf gene-specific probe and primer sets to custom probes and primers manufactured with your desired sequences, and everything in between.

All assay products use TaqMan® probe-based chemistry—the gold standard in allelic discrimination and quantitative gene expression—offering high sensitivity, specificity, and reproducibility, and broad dynamic range. To get from sample to result, a wide range of instruments and reagents tailored for quantitative PCR offer unrivaled performance for both routine and challenging applications.



TaqMan® Assay applications

Choose from performance-guaranteed* predesigned primer and probe sets, or customize your own



Gene expression analysis

TaqMan® Gene Expression Assays offer 1.3 million primer/probe sets for 23 species and selected pathogens, with your choice of FAM™ or VIC® dye labels. Custom Plus and standard Custom Assays enable you to study the expression of any gene or splice variant in any organism.



Drug metabolism genotyping

Choose from over 2,700 unique TaqMan® Drug Metabolism Genotyping Assays to detect polymorphisms in all known high-value DME pharmacogenetics markers, including PharmaADME core markers.



MicroRNA and noncoding RNA analysis

Innovative TaqMan®-based products and related tools, for miRNA and noncoding RNA research from isolation through discovery.

- Long noncoding RNA quantification
- miRNA profiling
- pri-miRNA quantification
- Small RNA quantification
- Targeted miRNA quantification



Protein expression

Revolutionary 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.



SNP genotyping

Choose from 4.5 million predesigned human and mouse TaqMan® SNP Genotyping Assays, or Custom TaqMan® SNP Genotyping Assays, in various sizes.



Copy number variation

TaqMan® Copy Number Assays provide over 1.6 million predesigned assays with genome-wide coverage for human and over 180,000 assays targeting gene exons for mouse, as well as Custom Plus and standard Custom Assays.



Somatic mutation detection

TaqMan® Mutation Detection Assays detect and measure somatic mutations in genes associated with cancer, using castPCR™ technology.

Products for each step of the workflow

Sample preparation

TaqMan® Gene Expression Cells-to-Ct™ Kit

Easily perform expression analysis using cultured cells without purification of RNA, with these reagents for cell lysis and RNA preservation, genomic DNA removal, and reverse transcription.

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 (<200 bp), enabling sensitive detection of low-level small RNAs.

Protein Expression Sample Preparation Kit

This kit prepares target and control cell lysates for use with TaqMan® Protein Assays. The buffered Cell Lysis Reagent is combined with user-supplied protease and phosphatase inhibitors to lyse cultured cells under nondenaturing conditions. The Cell Resuspension Buffer is for resuspending the cells before adding lysis reagent, and for diluting the lysates prior to assay binding.



DNA isolation kits

Kits for isolating DNA from blood, cells, tissues, and more.

TaqMan® Sample-to-SNP™ Kit

Provides a streamlined protocol for performing TaqMan® chemistry-based genotyping analysis on any sample.

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.

BloodPrep® DNA Chemistry

For rapid isolation of DNA from fresh or frozen blood from any animal species, tissue-cultured cells, or buccal swabs. Designed for use with the 6100 Nucleic Acid PrepStation and 6700 Automated Nucleic Acid Workstation.

Reverse transcription

High Capacity RNA-to-cDNA™ Kit

Provides high-quality reverse transcription, a streamlined workflow, and maximum sensitivity and dynamic range.

TaqMan® MicroRNA Reverse Transcription Kit

Contains components for optimal performance of TaqMan® MicroRNA Assays. Contents of this kit are used with the TaqMan® MicroRNA Assay RT primer to convert miRNA to cDNA.

Amplification

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.

TaqMan® PreAmp Master Mix

Pre-amplifies small amounts of cDNA without introducing amplification bias to the sample, and stretches precious sample into many more real-time PCR reactions.

TaqMan® Gene Expression Master Mix

Tailored for precise quantification by real-time PCR for both routine and challenging experiments.

TaqMan® Genotyping Master Mix

Obtain unrivaled cluster resolution for unambiguous SNP allelic discrimination. Optimized for endpoint fluorescence detection in genotyping applications.

TaqMan® Protein Assay Core Reagents Kit With Master Mix

Performs ligation and PCR amplification steps for protein expression. The Universal PCR Assay contains optimized concentrations of TaqMan® probe and oligonucleotide primers designed to amplify a region of the protease-treated ligation product. The enzyme concentration, ionic strength, and pH of the master mix are optimized for the amplification of ligated oligonucleotide target sequences prepared using TaqMan® Protein Assay reagents. The DNA polymerase maximizes PCR efficiency and specificity when used with the ligation chemistry.

Real-time PCR systems**

QuantStudio™ 12K Flex Real-Time PCR System

Designed for ultimate throughput, flexibility, and scalability, the QuantStudio™ 12K Flex system provides a single platform that enables you to perform targeted discovery through confirmation and screening, as well as many other applications.

- Platform runs 96-well, Fast 96-well, 384-well, and TaqMan® Array Card and OpenArray® plate formats
- Five interchangeable thermal cycling blocks enable 1–12,000 data points per run
- Enhanced OptiFlex™ System with white-light LED and 21 filter combinations for maximum chemistry options
- Advanced software for gene expression and microRNA profiling, genotyping, and digital PCR

*Terms and conditions apply. For more details, please go to www.appliedbiosystems.com/taqmanguarantee

**TaqMan® probe-based chemistry can be used on any real-time PCR instrument.

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ViiA™ 7 Real-Time PCR System

Enables high-productivity real-time PCR with enhanced data analysis.

- Run hundreds of qPCR reactions simultaneously using TaqMan® Array Cards
- Intuitive software, easy touch screen setup, effortless block exchange, and automation integration get you started right away
- OptiFlex™ System with 21 filter combinations enhances fluorescence detection and enables higher resolution
- Easily interchangeable thermal cycling block formats; choose standard or Fast 96- and 384-well formats, or a 384-well TaqMan® Array Card block

7500 Fast Real-Time PCR System

Provides thermal uniformity and quicker temperature ramp rates for fast cycling without compromising extension times or data quality. Get maximum performance for 96 wells in as little as 30 min/run.

StepOne™ and StepOnePlus™ Real-Time PCR Systems

Both of these systems offer intuitive software, fast runs (<40 min), and standard runs (<2 hr), and are configured for PC-free or networked operation. These factory-calibrated platforms make it easy to step up to high-performance real-time PCR.

StepOne™ System

- Cost-effective, 3-color, 48-well instrument
- User-friendly yet powerful interface for researchers new to real-time PCR

StepOnePlus™ System

- 4-color, 96-well PCR instrument
- Innovative VeriFlex™ blocks for convenient PCR optimization

Free data analysis software

DataAssist™ Software

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

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 OpenArray® Genotyping Plates. It offers a state-of-the-art genotype calling algorithm, an intuitive user interface, and enhanced multi-plate analysis features.

CopyCaller® Software

Enables you to perform relative quantification analysis of genomic DNA targets using the real-time PCR data from Predesigned or Custom TaqMan® Copy Number Assay experiments. The software and associated copy number assays can be used to detect and measure copy number variation of specific sequences in the human genome.

ProteinAssist™ Software

Imports C_t files exported from real-time systems for viewing and analysis of TaqMan® Protein Assay data for relative quantification.

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

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