



PCR and REAL-TIME PCR

Products designed for all your amplification needs



From endpoint PCR to quantitative real-time PCR, and from hot-start enzymes and master mixes to dNTPs and buffers, we offer a complete portfolio of high-quality PCR products to meet your amplification needs.

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Please visit our web site for more information.

REAL-TIME PCR

Everything you need for successful Real-Time PCR.

Choose from dye-based or probe-based qPCR systems offering robust amplification and sensitive results.

Dye-Based versus Probe-Based Chemistries

	Dye-Based qPCR	Probe-Based qPCR
Amplicon labeling	dsDNA-binding dye	Fluorescently labeled probes
Cost	Lower cost	Higher cost
Instrumentation	All qPCR instruments	Must match probes to filters
Specificity	Measures all dsDNA	Measures amplicon with probe sequence
Multiplexing	No	Yes—different dyes/filters
Melt analysis QC and genotyping	Yes	No
Throughput	High	Highest (multiplexed)
Sample required	Low	Lowest (multiplexed)
Requires validation	Yes	Yes
Applications		
Gene Expression quantitation	Low	High
DNA quantitation	Yes	Yes
ChIP	Yes	Yes
SNAP Genotyping	No	Yes
microRNA	No	Yes
Copy Number	No	Yes
Somatic mutation detection	No	Yes
Pathway analysis	No	Yes
Digital PCR	No	Yes

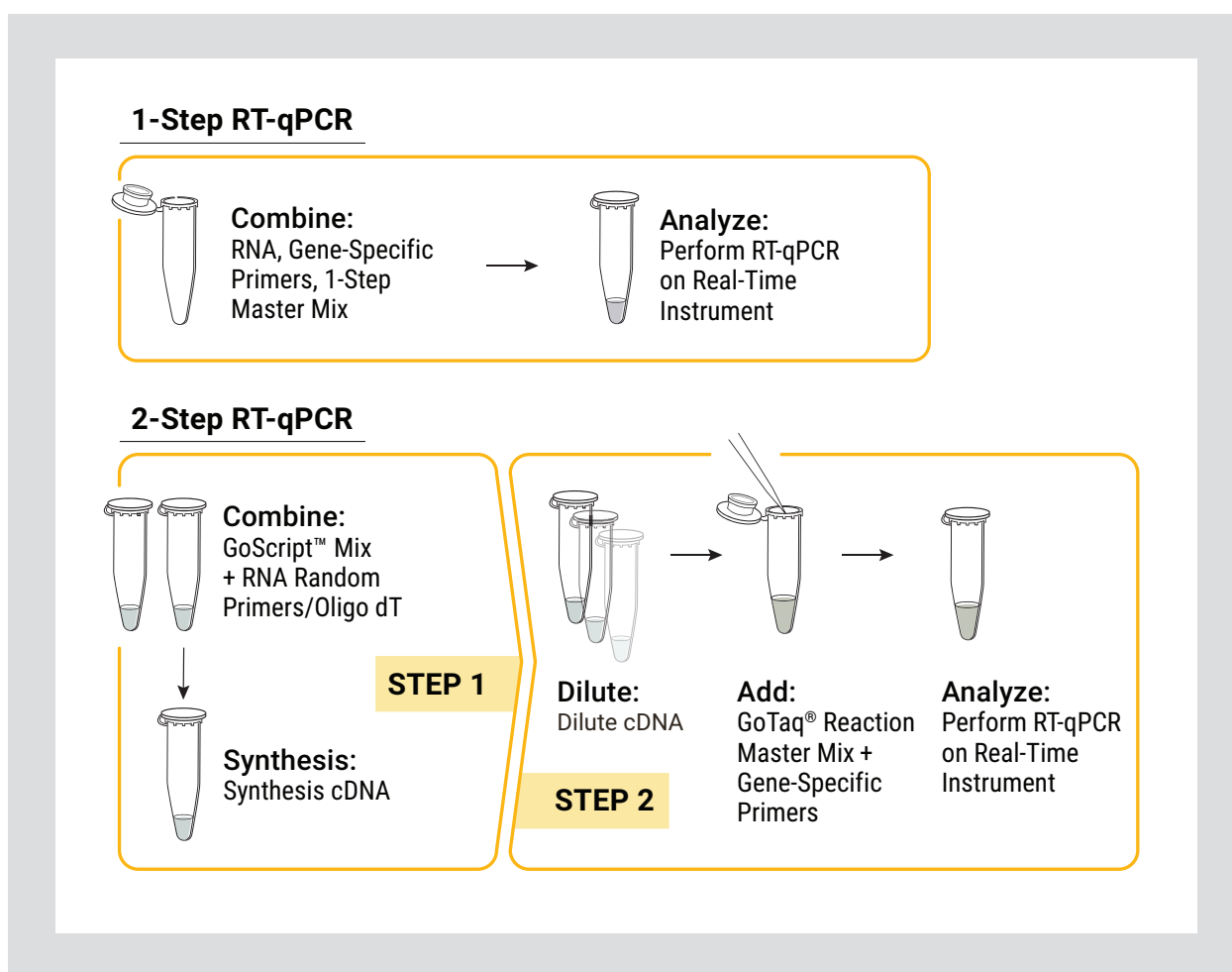
Select the Best System for Your Needs

Select Your Target	Select Your Detection Method			
	Dye-Based		Probe-Based	
Genomic DNA or cDNA	GoTaq® qPCR Master Mix		GoTaq® Probe qPCR Master Mix	
	1-Step	2-Step	1-Step	2-Step
RNA	GoTaq® 1-Step RT qPCR	GoTaq® 2-Step RT-qPCR GoScript™ Mixes	GoTaq® Probe 1-Step RT qPCR	GoTaq® Probe 2-Step RT-qPCR GoScript™ Mixes

1-Step versus 2-Step qPCR Kits

1-Step		2-Step	
Select 1-Step if:		Select 2-Step if:	
You do not need to store cDNA You will dispose of samples after a few uses You have many samples with one or few targets You are using a liquid-handling robot		You need to store the cDNA You have a limited amount of sample You are assaying many targets per sample	
Advantages	Disadvantages	Advantages	Disadvantages
Reduced chance of cross-contamination during the procedure Can dispose of samples after a few uses Faster results	Increased risk of primer-dimers cDNA not available for other assays	Optimized performance of both RT and PCR steps cDNA available for other procedure	RT enzymes and buffers can inhibit real-time PCR Less convenient, more time consuming Higher risk of contamination (compared to 1-step method)

1-Step and 2-Step Protocol Overview



REAL-TIME PCR

Probe-Based Detection

Ready-to-use mix of optimized components for robust qPCR and RT-qPCR using hydrolysis probes.

Compatible with both fast and standard cycling methods on most real-time PCR instruments using hydrolysis and other probe assays such as molecular beacons.

Reproducible performance with challenging templates, difficult targets or in the presence of PCR inhibitors.



GoTaq® Probe-Based Real-Time PCR Systems

Sensitive, Inhibitor-Resistant, Ready-To-Use Master Mixes

The GoTaq® Probe qPCR and RT-qPCR Systems are ready-to-use 2X master mixes that simplify reaction assembly for qPCR using hydrolysis probe detection. These systems are designed for sensitive detection and quantification of a broad range of DNA or RNA targets, in the presence of a wide range of PCR inhibitors.

Robust: Catalyze high-efficiency, full-length cDNA synthesis in the presence of inhibitors

Enhanced Stability: Room-temperature setup for easy automated and high-throughput detection

Superior Performance: Sensitive detection on most real-time PCR instruments

Versatile: Compatible with both fast and standard cycling methods

GoTaq® Probe qPCR Master Mix

- qPCR from genomic DNA templates
- Ready-to-use, 2X formulation with all of the components for quantitative PCR

Size		Cat. #
2ml	200 × 20µl reactions 400 × 10µl reactions	A6101
10ml	1,000 × 20µl reactions 2,000 × 10µl reactions	A6102

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GoTaq® Probe 2-Step RT-qPCR System

- 2-Step RT-qPCR from RNA templates
- Optimized reaction buffer and reverse transcriptase designed to enable efficient synthesis of first-strand cDNA in preparation for PCR amplification

Size		Cat. #
2ml	50 × 20µl RT reactions 200 × 20µl qPCR reactions	A6110

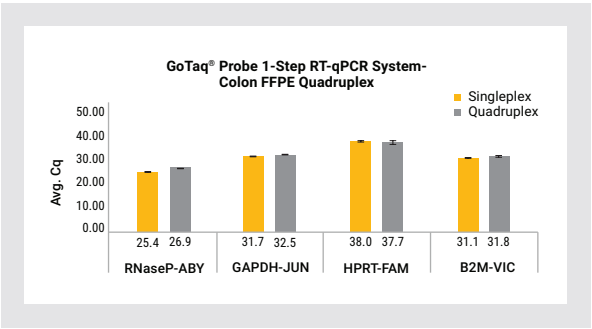
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GoTaq® Probe 1-Step RT-qPCR System

- 1-Step RT-qPCR from RNA templates
- For detection and relative quantification of RNA expression levels for one-step RT-qPCR
- The qPCR master mix contains dUTP allowing the use of UNG for control carryover contamination
- The RT Mix contains RNasin® Plus RNase Inhibitor
- Recommended for viral and pathogen detection and high-throughput screening

	Size	Cat. #
2ml	200 × 20µl reactions 400 × 10µl reactions	A6120
12.5ml	1,250 × 20µl reactions 2,500 × 10µl reactions	A6121

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Gene expression of targets with different gene expression levels [RNaseP (ABY), GAPDH (JUN), HPRT (FAM), and B2M (VIC)], was analyzed from 20ng of RNA purified from human colon FFPE blocks in singleplex and quadruplex using the GoTaq® Probe 1-Step RT-qPCR System.

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REAL-TIME PCR

Dye-Based Detection

Ready-to-use mix of optimized components for dye-based qPCR or RT-qPCR.

Compatible with both fast and standard cycling methods.

Resistant to a wide range of PCR inhibitors.



GoTaq® Dye-Based Real-Time PCR Systems

The BRYT Choice for Precision Detection over a Broad Range with Specificity & Sensitivity

The GoTaq® qPCR and RT-qPCR Systems are ready-to-use, 2X master mixes containing BRYT Green® Dye, a novel fluorescent DNA binding dye with minimal PCR inhibition for maximum amplification efficiency and greater fluorescence enhancement than SYBR® Green I.

Brighter Signal: Higher fluorescence in the presence of dsDNA when compared to SYBR® Green I, minimal fluorescence with no dsDNA

Extraordinary DNA melt curve performance: Minimal PCR inhibition, permitting use of saturation dye concentration for maximal signal

Enhanced Stability: High stability during storage or under extreme PCR conditions, suitable for automation and high-throughput detection

Versatile: Compatible with both fast and standard cycling methods

GoTaq® 1-Step RT-qPCR System

- 1-Step RT-qPCR from RNA templates
- For detection and relative quantification of RNA expression levels for one-step RT-qPCR
- The GoScript™ RT Mix combines optimized amounts of GoScript™ Reverse Transcriptase, RNasin® Plus RNase Inhibitor and additives to enhance single-step reactions with GoTaq® qPCR Master Mix

Size		Cat. #
5ml	500 × 20µl reactions 1,000 × 10µl reactions	A6020

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GoTaq® 2-Step RT-qPCR System

- 2-Step RT-qPCR from RNA templates
- Optimized reaction buffer and reverse transcriptase designed to enable efficient synthesis of first-strand cDNA in preparation for PCR amplification

Size		Cat. #
5ml	50 × 20µl RT reactions 500 × 20µl qPCR reactions 1,000 × 10µl qPCR reactions	A6010

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GoTaq® qPCR Master Mix

- qPCR from genomic DNA templates
- Ready-to-use, 2X formulation with all of the components for quantitative PCR

Size		Cat. #
5ml	500 × 20µl reactions 1,000 × 10µl reactions	A6001
25ml	2,500 × 20µl reactions 5,000 × 10µl reactions	A6002

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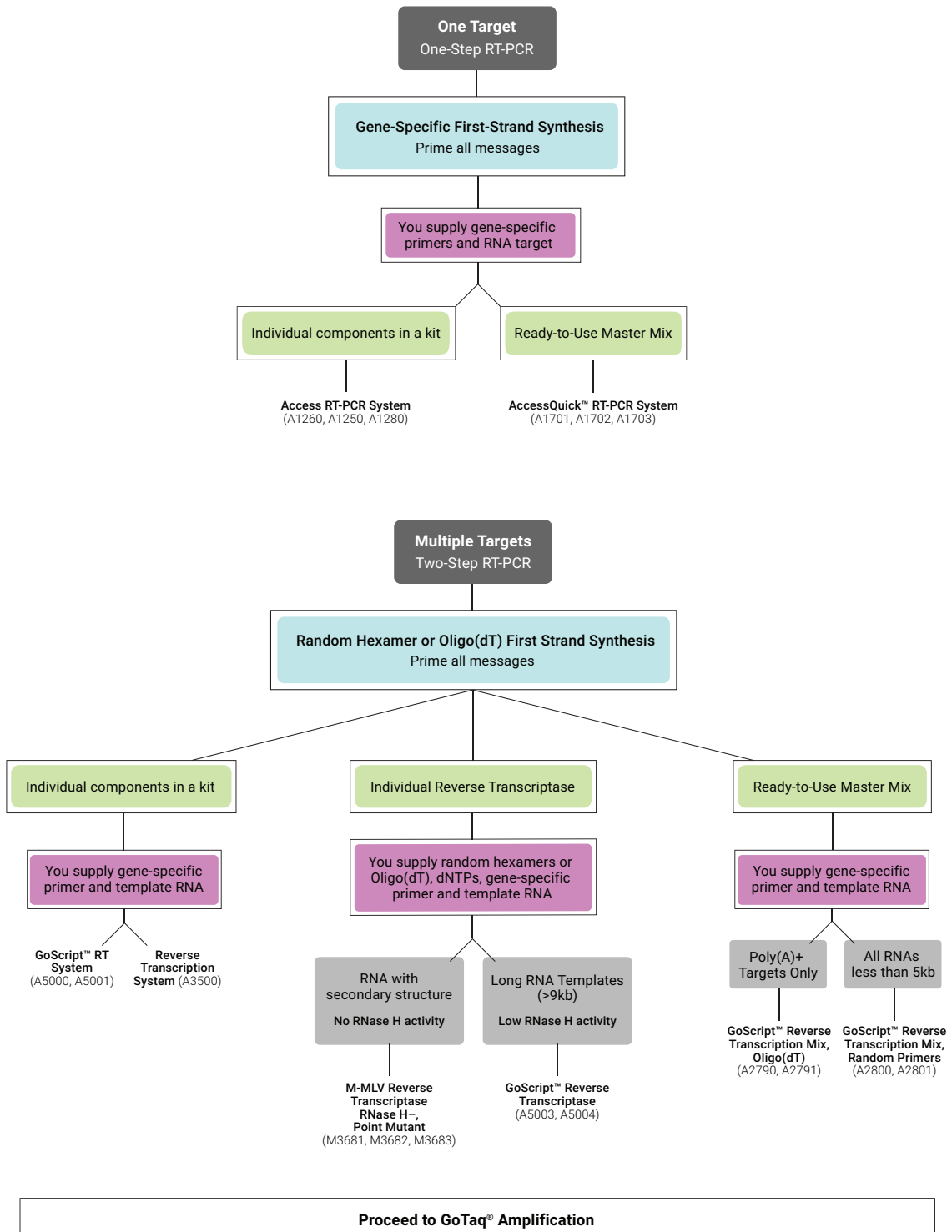
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REVERSE TRANSCRIPTION

Transcribe full-length cDNA from your experimental sample.



cDNA Synthesis



GoScript™ Reverse Transcriptase and Mixes

Optimized for RT-qPCR to Ensure Reliable cDNA Synthesis— Even with Difficult Templates

GoScript™ Reverse Transcriptase utilizes M-MLV and state-of-the-art buffer technology designed for qPCR to deliver robust, reliable cDNA synthesis of a full range of rare and abundant transcripts, even in the presence of inhibitors.

Sensitive: Transcribe both high-copy and low-copy messages

Resilient: Synthesize cDNA in the presence of strong PCR inhibitors

Processive: Transcribe short and long transcripts

Reliable: Process through secondary structure

Flexible: Available as a stand-alone enzyme, as part of a complete system, or as a component of master mixes for easy setup of optimized reactions

GoScript™ Reverse Transcription Mix + Oligo(dT)

- Master Mix with Oligo(dT)
- Includes reagents for synthesis of first-strand cDNA
- The Oligo(dT) priming initiates first-strand synthesis by annealing to the 3' end of any polyadenylated RNA molecule
- Reverse Transcription of total RNA or mRNA will yield oligo(dT)-primed products from any poly(A)+RNA
- The population of cDNAs produced using this method allows many different downstream analyses from a single reverse transcription reaction

Size (20µl reaction)	Cat. #
50 reactions	A2790
100 reactions	A2791

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GoScript™ Reverse Transcription Mix + Random Primers

- Master Mix with Random Primers
- Includes random primers for synthesis of first-strand cDNA in preparation for qPCR amplification
- Priming using random primers is the most generally used method of initiating cDNA synthesis from a variety of RNA templates
- Random primers can be used to prime first-strand cDNA synthesis from all RNA molecules, including those that do not possess a poly(A)+ tail and RNA isolated from prokaryotic sources

Size (20µl reaction)	Cat. #
50 reactions	A2800
100 reactions	A2801

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GoScript™ Reverse Transcription System

- Complete kit with separate components
- Includes GoScript™ Reverse Transcriptase, Reaction Buffer, MgCl₂, dNTP Mix, Oligo(dT), Random Primers and Recombinant RNasin® Ribonuclease Inhibitor
- Designed for efficient synthesis of first-strand cDNA
- The system components can effectively reverse transcribe RNA templates starting with total RNA, poly(A)+ mRNA or synthetic transcript RNA

Size (20µl reaction)	Cat. #
50 reactions	A5000
100 reactions	A5001

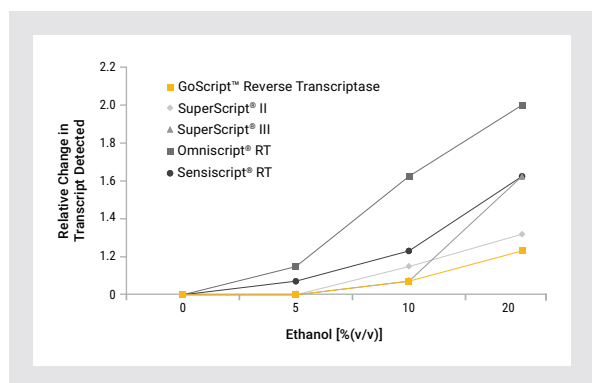
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GoScript™ Reverse Transcriptase

- Standalone enzyme
- Includes GoScript™ M-MLV reverse transcriptase enzyme and 5X GoScript™ Reaction Buffer

Size (20µl reaction)	Cat. #
100 reactions	A5003
500 reactions	A5004

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GoScript™ RT Not Affected by Common RNA and Inhibitors. An in vitro-transcribed RNA was reverse transcribed using oligo(dT) primer according to the manufacturer's instructions. Reverse transcription was carried out in the absence and presence of ethanol (5%, 10% and 20%). cDNA was analyzed by real-time PCR using GoTaq® qPCR Master Mix. Changes in cycle threshold values in the absence and presence of ethanol were determined and converted to relative change in transcript level = $(2^{C_q \text{ inhibitor}} - C_q \text{ none})$. Data are the average of three separate experiments.

M-MLV Reverse Transcriptase, RNase H Minus, Point Mutant

For Reverse Transcribing Long RNAs for cDNA Library Construction, cDNA Probe Generation and Primer Extension

M-MLV, RNase H Minus (M-MLV RT [H-]), Point Mutant, is an RNA-dependent DNA polymerase ideal for cDNA synthesis of long RNA templates (>5kb). Since RNase H can start to degrade templates when incubation times are long, the lack of RNase H activity is beneficial for synthesizing long cDNAs. While some researchers may be successful in using M-MLV RT (H+) for analytical and preparative cDNA applications, reverse transcriptases lacking RNase H activity provide another option to prepare long cDNAs and libraries containing a high percentage of full-length cDNA.

RNase H Minus: Ideal for the preparation of full-length cDNA from long RNA templates and libraries containing a high percentage of full-length cDNA

Optimal Temperature Stability: Minimizes problems associated with secondary structure

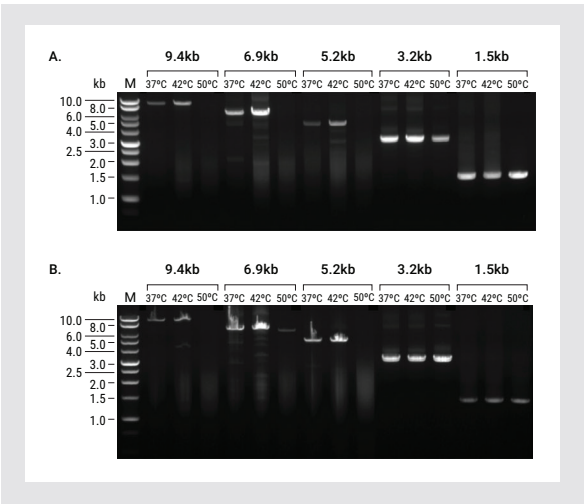
Broad Working Range: More tolerance to variations in enzyme and substrate concentrations, improved consistency in performance

Applications and Uses:

- Reverse transcription
- RT-PCR and RT-qPCR
- Incorporation of marked nucleotides
- Primer extension/RACE

	Size	Cat. #
	2,500 units	M3681
	10,000 units	M3682
	50,000 units	M3683

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Thermal stability and synthesis of large transcripts. cDNAs were synthesized from 1 µg of total human RNA using M-MLV (H-), Point Mutant, (Panel A) or SuperScript® II (Panel B) reverse transcriptase at 37°C, 42°C and 50°C. GoTaq® Long PCR amplifications were performed amplifying products from 9.4kb to 1.5kb.

Access and AccessQuick™ RT-PCR Systems

One-Step, Coupled RT-PCR Systems

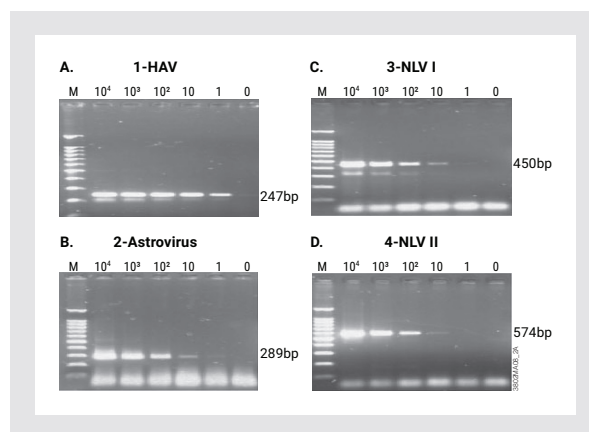
The Access and AccessQuick™ RT-PCR Systems offer the quickest route for amplification of a single, specific message. Both Access and AccessQuick™ Systems are one-tube, one-step, coupled RT-PCR systems. Both use the robust AMV Reverse Transcriptase, the versatile Tfl DNA Polymerase and a unique buffer that allows maximal activity of both enzymes in the same reaction mixture. AMV is more heat-stable than M-MLV reverse transcriptase, allowing RT steps at or above 42°C. Tfl DNA Polymerase is almost indistinguishable from Taq DNA Polymerase in reaction characteristics. Like Taq, Tfl DNA Polymerase leaves 3'-A overhangs allowing direct cloning of amplimers with PCR cloning vectors such as the pGEM®-T Easy Vector.

Save Time: Set up reactions in a single tube, drop into a thermal cycler, and come back later for results. No additions between the reverse transcription and DNA amplification steps.

Less Template: Detect message from as little as 1pg of total RNA or mRNA.

Applications and Uses:

- Templates with high secondary structure
- Generation of cDNAs of <5kb
- cDNA synthesis
- RT-PCR
- RACE



Identical serial dilutions of HAV, Astrovirus, NLV I and NLV II transcripts were amplified using optimized virus-specific RT-PCR conditions. Five microliters of each RT-PCR product were then resolved on a 2% agarose gel. Panel A: Hepatitis A virus (HAV). Panel B: Astrovirus. Panel C: Norwalk-like virus (NLV) I. Panel D: NLV II. Lanes 0, RT-PCR negative controls. Lanes M, 100bp DNA Ladder (Cat.# G2101).

Access RT-PCR Systems

- Access RT-PCR Systems provides maximum control
- Separate tubes of each component allow you to control every step of the reaction, including optimizing Mg₂⁺ and performing no-reverse transcriptase control reactions

Size (50µl reaction volume)	Cat. #
20 reactions	A1260
100 reactions	A1250
500 reactions	A1280

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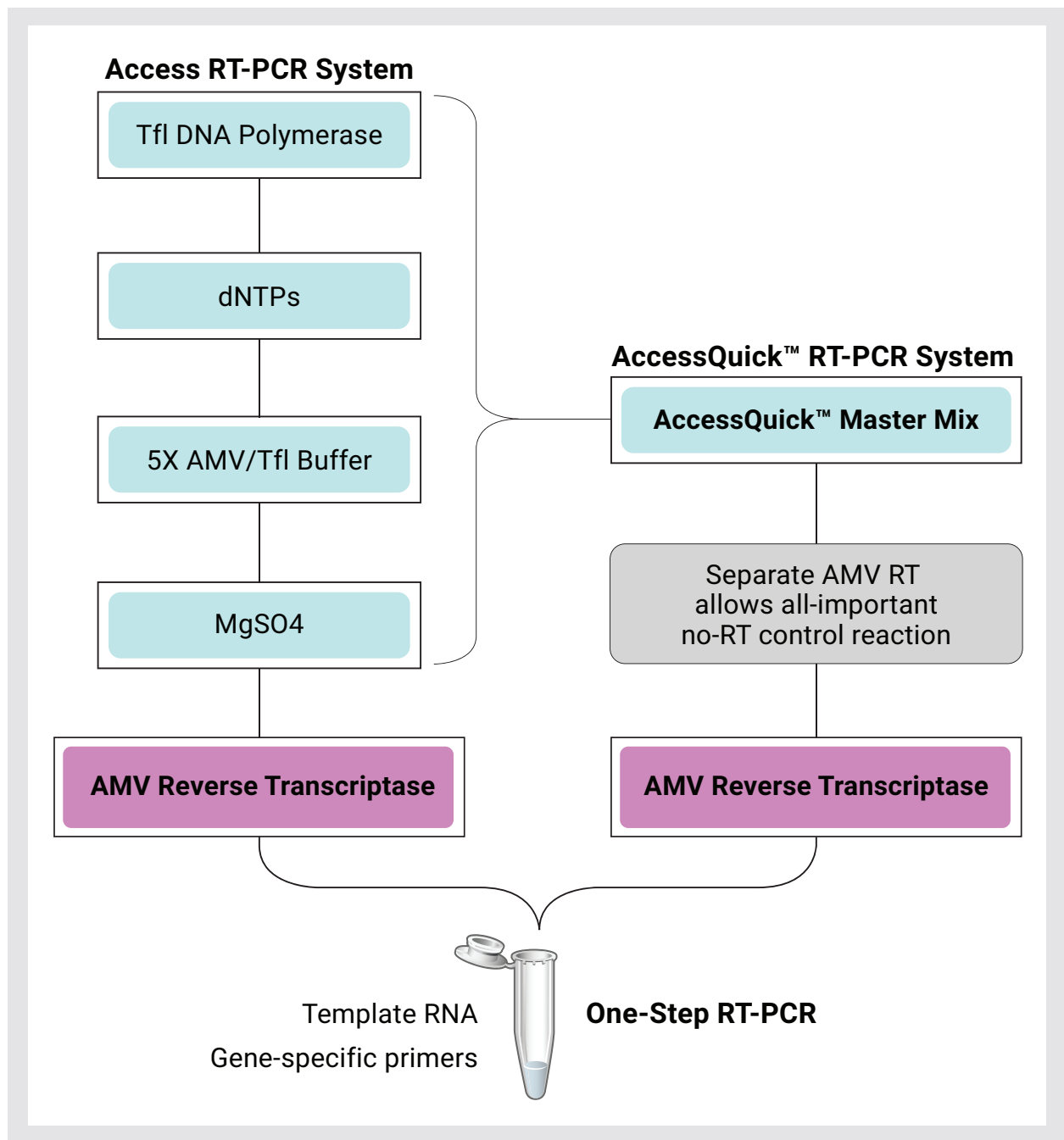
AccessQuick™ RT-PCR Systems

- AccessQuick™ RT-PCR Systems gives you maximum convenience
- Save yourself four pipetting steps. Simply combine the AccessQuick™ Master Mix, AMV RT, your gene-specific primers and RNA template
- Separate AMV RT allows important no-RT control reactions

Size (50µl reaction volume)	Cat. #
20 reactions	A1701
100 reactions	A1702
500 reactions	A1703

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Reaction set-up for Access and AccessQuick™ RT-PCR Systems



PCR POLYMERASE SELECTION

	Standard PCR	Hot Start PCR	Long PCR	High Fidelity
	GoTaq® G2 DNA Polymerase	GoTaq® G2 Hot Start DNA Polymerase	GoTaq® Long PCR Master Mix	<i>Pfu</i>
Applications				
High throughput		•	•	
Long PCR			•	
Cloning and subcloning			•	•
High-fidelity			•	•
Site-directed mutagenesis			•	•
Template generation for sequencing			•	•
Genotyping	•	•	•	•
Multiplex PCR		•	•	
Colony PCR	•	•	•	•
Fast PCR		•		
Routine PCR	•	•		
Characteristics				
5' - 3' exonuclease activity	Yes	Yes	Yes	Yes
3' - 5' exonuclease activity	No	No	Yes	No
Amplicon Size	<5kb	<5kb	<40kb	<10kb
Enzyme type	Recombinant	Recombinant	Recombinant	Native
Product Overhang	3' A	3' A	3' A/ blunt	blunt
Hot Start technology	No	Antibody	Antibody	No
Formats				
Enzyme with direct loading Buffer	Yes	Yes	No	No
Buffer with MgCl ₂	GoTaq® G2 DNA Polymerase	No	Yes	No
Buffer without MgCl ₂	GoTaq® G2 Flexi DNA Polymerase	GoTaq® G2 Hot Start DNA Polymerase	No	Yes, Contains MgSO ₄
Master Mix with direct loading Buffer, dNTPs and enhancers (Green)	GoTaq® G2 Green Master Mix	GoTaq® G2 Hot Start Green Master Mix	No	No
Master Mix without direct loading Buffer, dNTPs and enhancers (Colorless)	GoTaq® G2 Colorless Master Mix	GoTaq® G2 Hot Start Colorless Master Mix	Yes	No

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ENDPOINT PCR

Hot-Start PCR

High-performance polymerase with convenient
room-temperature setup.



GoTaq® G2 Hot Start Polymerase and Master Mixes

The Next Generation of Hot-Start Amplification

For superior convenience and improved yield, sensitivity and specificity, choose GoTaq® G2 Hot Start Polymerase, which is bound to a proprietary antibody that blocks activity. Activity is restored during initial denaturation, allowing hot-start PCR. Available as a master mix or standalone enzyme.

Improved amplification: Eliminate nonspecific amplification with antibody-mediated hot start enzyme

Robust results: Obtain high specificity and increased yields

Convenience: Simplify reaction setup at room temperature and save time with a ready-to-use master mix

Simplified PCR workflow: Load directly to gel with green buffer formats

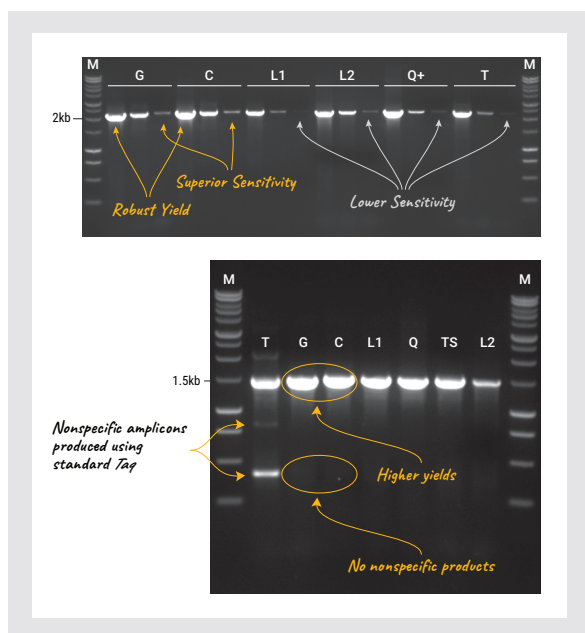
Master Mixes available: Reduce chances for error in reaction setup with fewer pipetting steps. The optimal enzyme and buffer combined with high-quality dNTPs mean fewer dropouts from difficult samples.

Applications and Uses:

- Hot-start PCR
- Complex genomic templates
- Low-copy target
- Genotyping
- T-vector cloning
- One-step and two-step RT-PCR

Product	Size	Cat. #
GoTaq® G2 Hot Start Polymerase	100 units	M7401
	500 units	M7405
	2,500 units	M7406
	10,000 units	M7408
GoTaq® G2 Hot Start Green Master Mix	100 × 50µl reactions	M7422
	1,000 × 50µl reactions	M7423
GoTaq® G2 Hot Start Colorless Master Mix	100 × 50µl reactions	M7432
	1,000 × 50µl reactions	M7433

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Top Panel: GoTaq® G2 Hot Start Master Mix displays superior sensitivity and robust yield. The 2.2kb APC target was amplified from decreasing amounts of input gDNA (33ng, 3.3ng and 330pg), left to right for each enzyme using the GoTaq® G2 Hot Start Green (G) and Colorless Master Mix and the leading competitors (L1, L2, Q+ and T) according to manufacturers' protocols.

Bottom Panel: GoTaq® G2 Hot Start Master Mixes produce higher yields and greater specificity. The 1.5kb fragment of the Corynebacterium omega gene, a hot-start model of specificity, was amplified from 500ng of input plasmid DNA using GoTaq® G2 Hot Start Green (G) or Colorless Master Mixes and the leading competitors (L1, Q, TS and L2).

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ENDPOINT PCR

Standard PCR

Reliable, consistent amplification of a wide range
of PCR templates.



GoTaq® G2 Polymerase and Master Mixes

The Next Generation of GoTaq® with Increased, Consistent and Improved Amplification

GoTaq® G2 DNA Polymerase is the second generation of GoTaq® enzymes. Its buffer and enzyme formulations improve PCR performance with enhanced amplification compared to standard *Taq* DNA polymerase. The improved manufacturing processes increase reliability and consistency.

GoTaq® G2 DNA Polymerase is available in many formats to give you maximum flexibility, control and convenience. For robust routine PCR, choose from a standalone enzyme and buffer system with or without magnesium or master mixes with or without loading dye.

Simplified PCR workflow: Load directly to gel with green buffer formats

Reliability: Robust amplification of a wide range of DNA templates

Convenience: Simplify reaction setup and save time with ready-to-use master mixes

Applications and Uses:

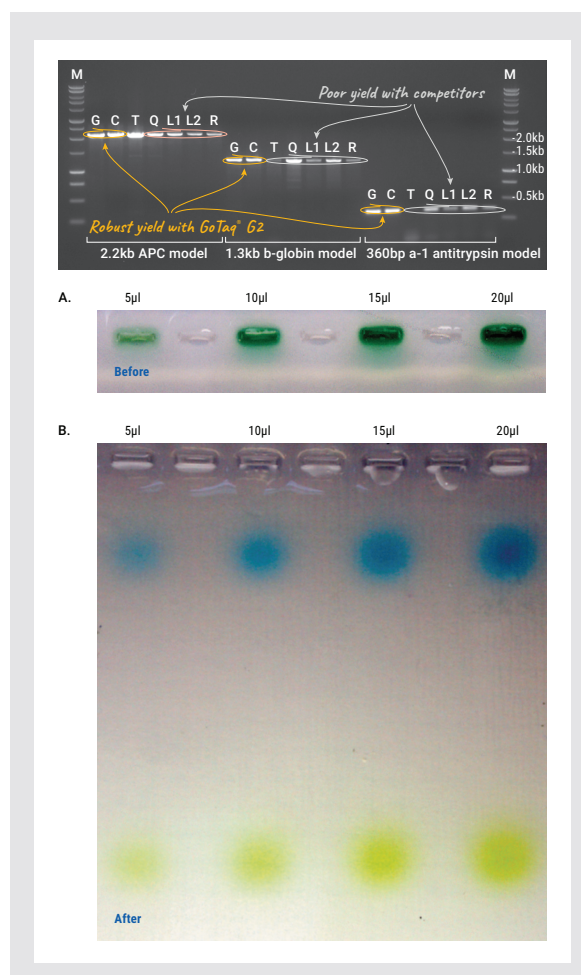
- Routine PCR
- T-vector cloning
- One-step and two-step RT-PCR

Product	Size	Cat. #
GoTaq® G2 DNA Polymerase	100 units	M7841
	500 units	M7845
	2,500 units	M7848
GoTaq® G2 Green Master Mix	100 × 50µl reactions	M7822
	1,000 × 50µl reactions	M7823
GoTaq® G2 Colorless Master Mix	100 × 50µl reactions	M7832
	1,000 × 50µl reactions	M7833

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Top Panel: Consistent, robust amplification across different targets. GoTaq® G2 DNA Polymerase consistently produces high yields across multiple targets, while competitors' reagents produce highly variable results. Three different targets were amplified using GoTaq® G2 DNA Polymerase with green (G) and colorless (C) buffers and competitor products (T, Q, L1, L2 and R) according to the manufacturers' recommended protocols using 3.3ng of human genomic DNA.

Bottom Panels: Simplify PCR workflow with Direct to Gel. Green Reaction Buffer is both a PCR reaction buffer and a gel loading solution, which includes a density reagent and two tracking dyes, for direct gel loading of PCR products. (Panel A) The blue and yellow dyes migrate at the same rate as 3–5kb DNA fragments (blue) and ahead of primers (yellow) in a 1% agarose gel (Panel B).



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SPECIALTY PCR

Long PCR

Efficiently amplify long DNA amplicons with convenient room-temperature setup.



GoTaq® Long PCR Master Mix

Developed and Optimized to Amplify Long Targets with High Sensitivity

GoTaq® Long PCR Master Mix contains the high-performance GoTaq® G2 Hot Start Polymerase in a specially formulated mixture with a proprietary thermostable proofreading polymerase. This optimized enzyme mixture allows efficient amplification of up to 40kb from lambda DNA or 30kb from human genomic DNA. The presence of a proofreading enzyme to repair DNA mismatches and a highly processive polymerase allows the polymerase to continue to elongate the DNA much further, resulting in longer DNA amplification.

Reliability: Robust amplification of a wide range of DNA templates: up to 30kb of human genomic DNA and 40kb of lower complexity targets.

Enhanced Accuracy: Optimized reaction components to promote efficient long PCR amplification.

Confidence: Control primer pair and human genomic DNA template included to perform control reactions and test template quality.

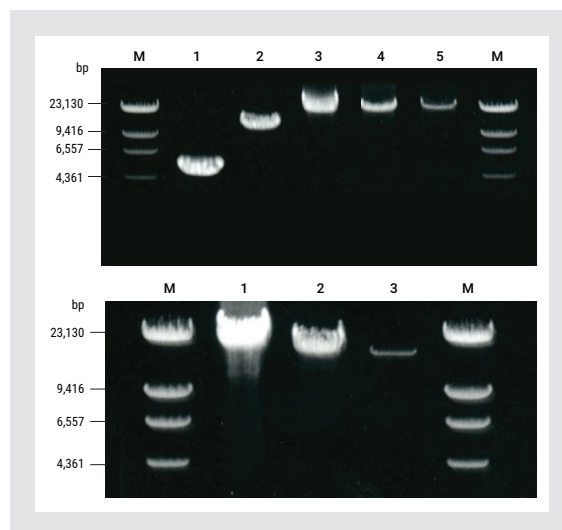
Convenience: Simplified reaction setup at room temperature with a ready-to-use hot start master mix.

Applications and Uses:

- PCR, RT-PCR, long-range PCR
- Cloning genes from genomic DNA or cDNA
- Mutational Analysis
- Genome Sequencing
- Genotyping
- HLA genotyping

Size	Cat. #
100 × 50µl reactions	M4021

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Top Panel: Amplify long and complex genomic DNA targets with high yield. PCR products varying in size from 5.2kb (α -1 antitrypsin) up to 30kb (β -globin) were amplified from 200ng of human genomic DNA using GoTaq® Long PCR Master Mix.

Bottom Panel: Amplify long templates with high sensitivity. Amplification of a template dilution (200ng, 20ng and 2ng) of a 17.5kb fragment from the human β -globin gene cluster using GoTaq® Long PCR Master Mix.

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SPECIALTY PCR

High-Fidelity PCR

Polymerase for applications that require high accuracy base insertion.



Pfu DNA Polymerase

Serious Fidelity, Serious Performance

Pfu DNA Polymerase is a high-fidelity, thermostable enzyme that replicates DNA at 75°C, catalyzing the polymerization of nucleotides into duplex DNA in the 5'→3' direction in the presence of magnesium.

It possesses 3'→5' exonuclease, proof-reading activity and is recommended for use in PCR and primer extension reactions that require high-fidelity synthesis.

Accuracy in PCR: *Pfu* DNA Polymerase is recognized as one of the most accurate thermostable enzymes known. The enzyme has accuracy approximately 6-fold greater than *Taq* DNA Polymerase. Promega *Pfu* DNA Polymerase, combined with the optimized buffer for high-fidelity and yield, provides the most accurate and consistent performance in PCR.

Confidence in High-Fidelity Amplification: Superior enzyme and optimized buffer result in the lowest error rate of any common thermostable polymerase.

New Levels of Convenience: Optimized, simple-to-use 10X Reaction Buffer.

Applications and Uses:

- Long-range PCR
- High-fidelity PCR
- Cloning
- Mutagenesis

Size	Cat. #
100 units	M7741
500 units	M7745

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RELATED PRODUCTS

BenchTop DNA Markers

BenchTop DNA Markers offer convenience in a tube. Not only can they be stored at ambient room temperature on your benchtop but they come premixed with loading dye, saving you time. The markers are ready to load, ready to speed your research.

Convenient: Can be stored at 22–25°C

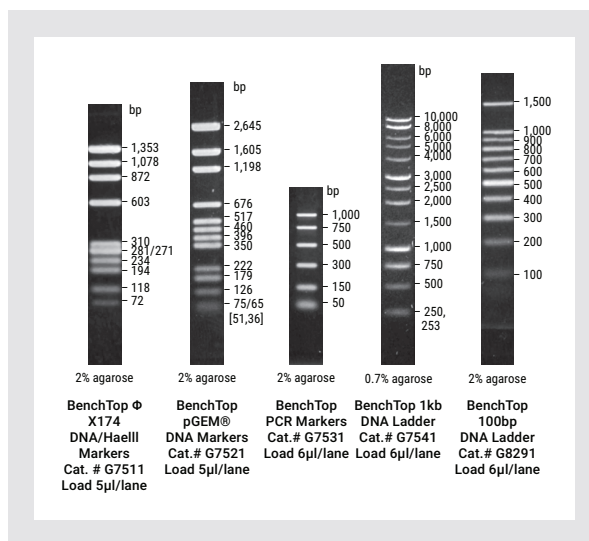
Efficient: Premixed with Promega's Blue/Orange Loading Dye and ready to load onto agarose gels

Easy-to-Follow: Promega's Blue/Orange Loading dye contains three dyes that run at approximately 4kb (xylene cyanol), 300bp (bromophenol blue), and 50bp (orange G) in agarose gels.

Product	Size	Cat. #
BenchTop Φ X174 DNA/HaeIII Markers	250 μ l	G7511
BenchTop pGEM® DNA Markers	250 μ l	G7521
BenchTop PCR Markers	300 μ l	G7531
BenchTop 1kb DNA Ladder	600 μ l	G7541
BenchTop 100bp DNA Ladder	300 μ l	G8291

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The DNA Ladder markers consist of incremental bands of defined sizes. The DNA Step Ladders are ladders of defined sizes with exact incremental steps between bands. Most of the ladder-style markers have special bands of increased intensity for easy identification. Conventional digest markers are created by digesting either lambda DNA, ϕ X174 replicative form DNA or plasmids to completion with one or more restriction enzymes. Each marker is provided with a tube of 6X Blue/Orange Loading Dye (for use with the marker and your sample).



Product	Size	Cat. #
1kb DNA Step Ladder	90 μ g	G6941
200bp DNA Step Ladder	100 μ g	G6961
100bp DNA Step Ladder	100 μ g	G6951
50bp DNA Step Ladder	90 μ g	G4521
25bp DNA Step Ladder	100 μ g	G4511
10bp DNA Step Ladder	32.5 μ g	G4471
1kb DNA Ladder	500 μ l	G5711

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Staining Dye

Diamond™ Nucleic Acid Dye

This room temperature-stable, sensitive fluorescent dye is a cost-effective alternative to ethidium bromide and the more-expensive SYBR® Gold.

Product	Size	Cat. #
Diamond™ Nucleic Acid Dye	500µl	H1181

For Research Use Only. Not for Use in Diagnostic Procedures.

High recovery of DNA fragments

Wizard® SV Gel and PCR Clean-Up System

Purify products directly from PCR and other common reactions with the Wizard® SV Gel and PCR Clean-Up System. Designed to extract and purify DNA fragments of 100bp to 10kb from standard, low-melting agarose gels, the system achieves up to 95% recovery (depending on DNA fragment size). This membrane-based system, which can bind up to 40µg of DNA, allows recovery of isolated DNA fragments or PCR products in as little as 15 minutes, depending on the number of samples processed.

Product	Size	Cat. #
Wizard® SV Gel and PCR Clean-Up System	50 preps	A9281
	250 preps	A9282

For Laboratory Use.

Maintaining RNA integrity

RNasin® Plus RNase Inhibitor

Maintaining RNA integrity is crucial to the success of your experiments. RNase contamination can happen during RNA purification and during routine downstream handling. Recombinant mammalian RNase inhibitor capable of inhibiting eukaryotic RNases similarly to human placental RNase inhibitor.

Product	Size	Cat. #
RNasin® Ribonuclease Inhibitor*	2,500u	N2111
	10,000u	N2115
Recombinant RNasin® Ribonuclease Inhibitor**	2,500u	N2511
	10,000u	N2515
RNasin® Plus RNase Inhibitor**	2,500u	N2611
	10,000u	N2615

*For Research Use Only. Not for Use in Diagnostic Procedures.

**For Laboratory Use

PCR Cloning

Subclone PCR and RT-PCR Products Rapidly and Affordably Using Promega pGEM® T-Vector Family

The pGEM-T® Vector Systems provide rapid and reliable cloning of PCR-products, eliminating the need for post-PCR modification, vector preparation or other special procedures. LigaFast™ technology allows cloning to be completed in <1 hour at room temperature. Clone and transform bacteria in the same day with better value than other systems. Screening colonies with insertional inactivation of the LacZ a-peptide (blue/white selection) is easy and improves your success rate for cloning.

Product	Size	Cat. #
pGEM®-T Easy Vector System I	20 reactions	A1360
pGEM®-T Easy Vector System II	20 reactions	A1380
pGEM®-T Vector System I	20 reactions	A3600
pGEM®-T Vector System II	20 reactions	A3610

For Laboratory Use.

PCR Nucleotide Mix

PCR-Ready dNTPs Solution

PCR-tested nucleotides ensure optimal performance with all amplification enzymes. High quality deoxynucleotide triphosphates (dNTPs) sets are critical for the success of key procedures such as cDNA synthesis, sequencing and labeling. Promega dNTPs are > 98% pure and are functionally tested.

Product	Size	Cat. #
PCR Nucleotide Mix	10mM 200µl	C1141
	10mM 1,000µl	C1145
	25mM 200µl	U1431
	25mM 1,000µl	U1432
dNTP Mix	10mM 200µl	U1511
	10mM 1,000µl	U1515
dNTP Sets (dATP, dCTP, dGTP, and dTTP)	10µmol each	U1330
	25µmol each	U1420
	40µmol each	U1240
	200µmol each	U1410
dNTP Sets (dATP, dCTP, dGTP, and dUTP)	10µmol each	U1335
	40µmol each	U1245

For Laboratory Use.

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For technical questions or to order, visit: [promega.com/amplification](https://www.promega.com/amplification)

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That’s Our PCR Guarantee!

Product must be within expiration date and have been stored and used in accordance with product literature. See Promega Product Insert for specific tests performed.