



Reverse Transcription & RT-PCR

Wide selection of extremely economical and high quality Reverse Transcription & RT-PCR kits

Introduction

Reverse transcription is a widely used application in molecular biology research for RNA and expression analysis. Real Biotech Corporation provides robust and reliable reverse transcriptases in a variety of optimized formats for efficiency in RT-PCR and RT-qPCR applications.

A complete set of RT-PCR and qRT-PCR Kits are available, including Cells cDNA Kit, Direct RT-PCR Kit, Cells qRT-PCR Kit, cDNA Synthesis Supermix, One-Step RT-PCR Kit and One-Step qRT-PCR Kit etc. Kits for both SYBR Green and probe chemistry are available offering a simple way to perform rapid, sensitive and reproducible RT-qPCR in a single tube.

Choose from the table below for the most suitable one for your application. If none is suitable, please inquire local distributor or Real Biotech Corp.

Direct cDNA/RT-PCR Kit		
AmpEasy™ Cells cDNA Kit	Prepare cDNA directly from cells without RNA purification	Page T-3
AmpEasy™ Direct RT-PCR Kit	Perform PCR with cDNA directly from cells without RNA purification	Page T-4
AmpEasy™ Cells qRT-PCR Kit (For SYBR Green System w/ROX)	Real-Time PCR with cDNA directly from cells without RNA purification	Page T-5
AmpEasy™ Cells qRT-PCR Kit (For Probe System w/ROX)	Real-Time PCR with cDNA directly from cells without RNA purification	Page T-6
Reverse Transcription & RT-PCR		
RealScript™ cDNA Synthesis Supermix	Optimized for the highest cDNA yields for reverse transcription	Page T-7
RealScript™ One-Step RT-PCR Kit	Perform Reverse Transcription and PCR in the same tube	Page T-8
RealScript™ One-Step qRT-PCR Kit (For SYBR Green System w/ROX)	Perform Reverse Transcription and qPCR in the same tube	Page T-9
RealScript™ One-Step qRT-PCR Kit (For Probe System w/ROX)	Perform Reverse Transcription and qPCR in the same tube	Page T-10
Ultra-Pure Water & RT-PCR Solutions		
RealPure™ DEPC-Treated Water	Guaranteed nuclease-free and is suitable for all RNA work	Page T-11
dNTP/dATP/dCTP/dTTP/dGTP	DNase, RNase and Nickase free. Suitable for RT-PCR.	Page T-12

Popular Direct cDNA & RT-PCR Kits

AmpEasy™ Cells cDNA Kit

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AmpEasy™ Cells cDNA Kit is designed for high-speed preparation of first-strand cDNA directly from cultured cells without RNA purification. By using AmpEasy™ Cells cDNA Kit, RNA in the cell lysate can be directly converted to cDNA. The cDNA synthesized accurately represents the cellular gene expression profile, making it highly suited for use in real-time RT-PCR. The whole process, from cells to cDNA, can be completed in less than 30 minutes. When AmpEasy™ Cells cDNA Kit is used together with optimized PairFast™ Real-Time PCR Mastermix for real-time PCR, several cell samples can be easily processed and analyzed within a few hours. This allows analysis of a large number of differentially treated cultures much faster and simpler.

AmpEasy™ Direct RT-PCR Kit

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AmpEasy™ Direct RT-PCR Kit is designed for high-speed preparation of first-strand cDNA directly from cultured cells without RNA purification. By using AmpEasy™ Direct RT-PCR Kit, RNA in the cell lysate can be directly converted to cDNA and subsequently analyzed using the PCR reagents included in the kit. The whole process, from cells to cDNA and from cDNA to PCR, can be completed in less than 1.5 hours. AmpEasy™ Direct RT-PCR Kit accelerates and streamlines real-time PCR analysis of cultured cells. This allows analysis of a large number of differentially treated cultures much faster and simpler.

AmpEasy™ Cells qRT-PCR Kit

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AmpEasy™ Cells qRT-PCR Kit is designed for high-speed preparation of first-strand cDNA and real-time PCR amplification directly from cultured cells without RNA purification. By using AmpEasy™ Cells qRT-PCR Kit, RNA in the cell lysate can be directly converted to cDNA and subsequently analyzed using the real-time PCR reagents included in the kit. The whole process, from cells to cDNA and from cDNA to real-time PCR, can be completed in less than 1.5 hours. AmpEasy™ Cells qRT-PCR Kit accelerates and streamlines real-time PCR analysis of cultured cells. This allows analysis of a large number of differentially treated cultures much faster and simpler.

Popular Reverse Transcription & RT-PCR Kits

RealScript™ cDNA Synthesis Supermix

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RealScript™ cDNA Synthesis Supermix is specially designed for reverse transcription with any amount of RNA up to 5 µg per reaction. This optimized super mix contains all the factors needed for first-strand cDNA synthesis, including RealScript™ Reverse Transcriptase and 2X First-Strand Reaction Mix. RealScript™ cDNA Synthesis Supermix is a unique enzyme, different from the reverse transcriptases of Moloney Murine Leukemia Virus (MMLV) or Avian Myeloblastosis Virus (AMV). As a version of mutated MMLV, RealScript™ Reverse Transcriptase is genetically engineered to increase half-life, reduce RNase H activity, increase thermal stability, increase specificity of RT, provide more full-length product and lead to the highest cDNA yield of all RTs. RealScript™ cDNA Synthesis Supermix is ideal for cDNA synthesis using a gene-specific primer, random primer, or either total RNA or poly(A)⁺-selected RNA primed with oligo(dT).

RealScript™ One-Step RT-PCR Kit

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RealScript™ One-Step RT-PCR Kit is designed for the reverse transcription and PCR amplification of a specific target RNA from either total RNA or mRNA. RealScript™ One-Step RT-PCR Kit combines the first-strand cDNA synthesis (reverse transcription) reaction and PCR reaction in the same tube, simplifying reaction setup and reducing the possibility of contamination. This one-tube system provides sensitive, quick and reproducible analysis of even rare RNA. This optimized RealScript™ One-Step RT-PCR Kit contains all the factors needed for reverse transcription and PCR amplification. RT-PCR can be done easily by simply adding template RNA and primers to the tube. This one-step system not only eliminates any nonspecific amplification products and reduces background smear, but also ensures highly sensitive and reproducible RT-PCR. Since it is a one-tube system, both cDNA synthesis and PCR amplification can be processed in a single tube. The simple procedure makes high-throughput analysis possible.

RealScript™ One-Step qRT-PCR Kit

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RealScript™ One-Step qRT-PCR Kit (For SYBR Green System w/ROX) is designed for the reverse transcription and real-time PCR amplification of a specific target RNA from either total RNA or mRNA. This optimized RealScript™ One-Step qRT-PCR Kit (For SYBR Green System w/ROX) contains all the factors needed for reverse transcription and real-time PCR amplification. Real-Time RT-PCR can be done easily by simply adding template RNA and primers to the tube. This one-step system not only eliminates any nonspecific amplification products and reduces background smear, but also ensures highly sensitive and reproducible qRT-PCR. Since it's a one-tube system, both cDNA synthesis and qPCR amplification can be processed in a single tube. The simple procedure makes high-throughput analysis possible.

AmpEasy™ Cells cDNA Kit



Cat. No. RCC050

20 µl/reaction; 50 reactions/kit

Buffer W: 25 ml

Buffer C: 2.5 ml

RealScript™ Reverse Transcriptase: 100 µl

2X First-Strand Reaction Mix: 0.5 ml

Oligo (dT) primer (10 µM): 50 µl

RNase-Free Water: 1 ml

Cat. No. RCC100

20 µl/reaction; 100 reactions/kit

Buffer W: 50 ml

Buffer C: 5 ml

RealScript™ Reverse Transcriptase: 200 µl

2X First-Strand Reaction Mix: 1 ml

Oligo (dT) primer (10 µM): 100 µl

RNase-Free Water: 2 ml



Prepare cDNA directly from cells without RNA purification within 30 minutes

Higher sensitivity than Brand Q

Description

AmpEasy™ Cells cDNA Kit is designed for high-speed preparation of first-strand cDNA directly from cultured cells without RNA purification. By using AmpEasy™ Cells cDNA Kit, RNA in the cell lysate can be directly converted to cDNA. The cDNA synthesized accurately represents the cellular gene expression profile, making it highly suited for use in real-time RT-PCR. The whole process, from cells to cDNA, can be completed in less than 30 minutes. When AmpEasy™ Cells cDNA Kit is used together with optimized PairFast™ Real-Time PCR Mastermix for real-time PCR, several cell samples can be easily processed and analyzed within a few hours. This allows analysis of a large number of differentially treated cultures much faster and simpler.

Features

cDNA can be prepared directly from cultured cells without RNA purification. No RNA purification is required, minimizing pipetting tasks and saving plenty of time. The whole process, from cells to cDNA, can be completed in less than 30 minutes. Sensitive in detecting low-abundance transcripts. Highest cDNA yields of specific and long cDNA synthesis (~2.1 KB).

Applications

Ideal for performing reverse transcription reactions on small number of cells. Ideal for analysis of large numbers of differentially treated cultures. RT-PCR, primer extension, and 3' and 5' RACE. Gene-expression analysis.

Quality Control

Specificity and reproducibility of AmpEasy™ Cells cDNA Kits are tested in reproducibility assay: parallel 20µl reactions containing 2 ul of human total RNA from embryonic kidney cell lysate and 0.5 µM primers, specific for d(T)18. After 35 cycles, B2M transcript is detected. The length of cDNA achieved is verified as 248 bp by electrophoresis and DNA sequencing.

Storage Conditions

AmpEasy™ Cells cDNA Kit is shipped on dry ice. Buffer W should be stored at room temperature (15–25°C). All other components of AmpEasy™ Cells cDNA Kit should be stored immediately upon receipt at -20°C in a constant temperature freezer. With proper storage, AmpEasy™ Cells cDNA Kit can be stored for up to 12 months without showing any deduction in performance and quality.

Comparison Table

	RBC	Brand I	Brand Q
Sample	Cultured Cells	Cultured Cells	Cultured Cells
Sample Amount	5 x 10 ⁴	2.5 x 10 ⁵	≤ 4 x 10 ⁴
Heat Denaturation	Not Required	70°C, 3 minutes	Not Required
Buffer Format	Premixed Buffer	Individual Buffer	Premixed Buffer
Reverse Transcription	42°C, 5 minutes	42°C, 15-60 minutes	42°C, 30 minutes
Total Incubation Time	20 Minutes	53 Minutes	43 Minutes
Real-Time PCR	More sensitive than Q	Sensitive	Sensitive
Price	Cheap	Expensive	Expensive

AmpEasy™ Direct RT-PCR Kit



Perform PCR with cDNA directly from cells without RNA purification

Higher sensitivity than Brand Q

Cat. No. DRP050

50 reactions / kit

Buffer W: 25 ml

Buffer C: 2.5 ml

RealScript™ Reverse Transcriptase: 100 µl

2X First-Strand Reaction Mix: 0.5 ml

Oligo (dT) primer (10 µM): 50 µl

RNase-Free Water: 1 ml

2X RealSens™ HotStart DNA Polymerase Mastermix: 1.25 ml



Cat. No. DRP100

100 reactions / kit

Buffer W: 50 ml

Buffer C: 5 ml

RealScript™ Reverse Transcriptase: 200 µl

2X First-Strand Reaction Mix: 1 ml

Oligo (dT) primer (10 µM): 100 µl

RNase-Free Water: 2 ml

2X RealSens™ HotStart DNA Polymerase Mastermix: 2.5 ml

Description

AmpEasy™ Direct RT-PCR Kit is designed for high-speed preparation of first-strand cDNA directly from cultured cells without RNA purification. By using AmpEasy™ Direct RT-PCR Kit, RNA in the cell lysate can be directly converted to cDNA and subsequently analyzed using the PCR reagents included in the kit. The whole process, from cells to cDNA and from cDNA to PCR, can be completed in less than 1.5 hours. AmpEasy™ Direct RT-PCR Kit accelerates and streamlines real-time PCR analysis of cultured cells. This allows analysis of a large number of differentially treated cultures much faster and simpler.

Features

cDNA can be prepared directly from cultured cells without RNA purification. No RNA purification is required, minimizing pipetting tasks and saving plenty of time. The whole process including PCR can be completed in less than 1.5 hours. Sensitive in detecting low-abundance transcripts. Highest cDNA yields of specific and long cDNA synthesis (~2.1 KB).

Applications

Ideal for performing reverse transcription reactions and PCR on small number of cells. Ideal for analysis of large numbers of differentially treated cultures. Gene-expression analysis.

Quality Control

Specificity and reproducibility of AmpEasy™ Direct RT-PCR Kits are tested in reproducibility assay: parallel 20 µl reactions containing 2 µl of human total RNA from embryonic kidney cell lysate and 0.5 µM primers, specific for d(T)18. After 35 cycles, B2M transcript is detected. The length of cDNA achieved is verified as 248 bp by electrophoresis and DNA sequencing.

Storage Conditions

AmpEasy™ Direct RT-PCR Kit is shipped on dry ice. Buffer W should be stored at room temperature (15–25°C). All other components of AmpEasy™ Direct RT-PCR Kit should be stored immediately upon receipt at -20°C in a constant temperature freezer. With proper storage, AmpEasy™ Direct RT-PCR Kit can be stored for up to 12 months without showing any deduction in performance and quality.

Comparison Table

Higher sensitivity!

Sensitivity Test: RBC AmpEasy™ Direct RT-PCR Kit vs. Brand Q OneStep RT-PCR Kit



Origin: RBC Labs

AmpEasy™ Cells qRT-PCR Kit (For SYBR Green System w/ROX)

Real-Time PCR with cDNA directly from cells without RNA purification

Higher sensitivity than Brand Q



Cat. No. RCS050

50 reactions / kit

Buffer W: 25 ml

Buffer C: 2.5 ml

RealScript™ Reverse Transcriptase: 100 µl

2X First-Strand Reaction Mix: 0.5 ml

Oligo (dT) primer (10 µM): 50 µl

2X RealSens™ Real-Time PCR Mastermix: 625 µl

RNase-Free Water: 2 ml

Store at
-20°C

Cat. No. RCS100

100 reactions / kit

Buffer W: 50 ml

Buffer C: 5 ml

RealScript™ Reverse Transcriptase: 200 µl

2X First-Strand Reaction Mix: 1 ml

Oligo (dT) primer (10 µM): 100 µl

2X RealSens™ Real-Time PCR Mastermix: 1.25 ml

RNase-Free Water: 3 ml

Description

AmpEasy™ Cells qRT-PCR Kit (For SYBR Green System w/ROX) is designed for high-speed preparation of first-strand cDNA and real-time PCR amplification directly from cultured cells without RNA purification. By using AmpEasy™ Cells qRT-PCR Kit (For SYBR Green System w/ROX), RNA in the cell lysate can be directly converted to cDNA and subsequently analyzed using the real-time PCR reagents included in the kit. The whole process, from cells to cDNA and from cDNA to real-time PCR, can be completed in less than 1.5 hours. AmpEasy™ Cells qRT-PCR Kit (For SYBR Green System w/ROX) accelerates and streamlines real-time PCR analysis of cultured cells. This allows analysis of a large number of differentially treated cultures much faster and simpler.

Features

cDNA can be prepared directly from cultured cells without RNA purification.

No RNA purification is required, minimizing pipetting tasks and saving plenty of time. Highest cDNA yields of specific and long cDNA synthesis (~2.1KB).

Just less than 1.5 hours, from cells to cDNA and from cDNA to real-time PCR can be completed.

Optimized for use with any real-time PCR cycler using SYBR Green detection format.

Reproducible results in high-throughput analysis

Applications

Ideal for performing reverse transcription and real-time PCR on small number of cells.

Ideal for analysis of large numbers of differentially treated cultures.

Gene-expression analysis.

Quality Control

Specificity and reproducibility of AmpEasy™ Cells qRT-PCR Kits (For SYBR Green System w/ROX) are tested in reproducibility assay: parallel 20µl reactions containing 2 ul of human total RNA from embryonic kidney cell lysate and 0.5 µM primers, specific for d(T)18. After 35 cycles, B2M transcript is detected. The length of cDNA achieved is verified as 248 bp by electrophoresis and DNA sequencing. Tenfold serial dilution (10^9 ~ 10^{10}) of cDNA were amplified using primers specific to the NNV gene. Triplicate reactions at each concentration were amplified along with no-template controls. Standard curve is $r=0.999$, efficiency=92.4% and standard deviation of $Ct < 1.0$.

Storage Conditions

AmpEasy™ Cells qRT-PCR Kit (For SYBR Green System w/ROX) is shipped on dry ice. Buffer W should be stored at room temperature (15–25°C). All other components should be stored immediately upon receipt at -20°C in a constant temperature freezer.

Comparison Table (from cells to cDNA)

	RBC	Brand I	Brand Q
Sample	Cultured Cells	Cultured Cells	Cultured Cells
Sample Amount	5×10^4	2.5×10^5	$\leq 4 \times 10^4$
Heat Denaturation	Not Required	70°C, 3 minutes	Not Required
Buffer Format	Premixed Buffer	Individual Buffer	Premixed Buffer
Reverse Transcription	42°C, 5 minutes	42°C, 15-60 minutes	42°C, 30 minutes
Total Incubation Time	20 Minutes	53 Minutes	43 Minutes
Real-Time PCR	More sensitive than Q	Sensitive	Sensitive
Price	Cheap	Expensive	Expensive

AmpEasy™ Cells qRT-PCR Kit (For Probe System w/ ROX)

Real-Time PCR with cDNA directly from cells without RNA purification



Higher sensitivity than Brand Q

Cat. No. RCP050

50 reactions / kit

Buffer W: 25 ml

Buffer C: 2.5 ml

RealScript™ Reverse Transcriptase: 100 µl

2X First-Strand Reaction Mix: 0.5 ml

Oligo (dT) primer (10 µM): 50 µl

2X RealSens™ Real-Time PCR Mastermix: 625 µl

RNase-Free Water: 2 ml



Cat. No. RCP100

100 reactions / kit

Buffer W: 50 ml

Buffer C: 5 ml

RealScript™ Reverse Transcriptase: 200 µl

2X First-Strand Reaction Mix: 1 ml

Oligo (dT) primer (10 µM): 100 µl

2X RealSens™ Real-Time PCR Mastermix: 1.25 ml

RNase-Free Water: 3 ml

Description

AmpEasy™ Cells qRT-PCR Kit (For Probe System w/ ROX) is designed for high-speed preparation of first-strand cDNA and real-time PCR amplification directly from cultured cells without RNA purification. By using AmpEasy™ Cells qRT-PCR Kit (For Probe System w/ ROX), RNA in the cell lysate can be directly converted to cDNA and subsequently analyzed using the real-time PCR reagents included in the kit. The whole process, from cells to cDNA and from cDNA to real-time PCR, can be completed in less than 1.5 hours. AmpEasy™ Cells qRT-PCR Kit (For Probe System w/ ROX) accelerates and streamlines real-time PCR analysis of cultured cells. This allows analysis of a large number of differentially treated cultures much faster and simpler.

Features

cDNA can be prepared directly from cultured cells without RNA purification. No RNA purification is required, minimizing pipetting tasks and saving plenty of time. Highest cDNA yields of specific and long cDNA synthesis (~2.1KB). Just less than 1.5 hours, from cells to cDNA and from cDNA to real-time PCR can be completed. Optimized for use with any real-time PCR cyclers and sequence-specific probes. Reproducible results in high-throughput analysis

Applications

Ideal for performing reverse transcription and real-time PCR on small number of cells. Ideal for analysis of large numbers of differentially treated cultures. Gene-expression analysis.

Quality Control

Specificity and reproducibility of AmpEasy™ Cells qRT-PCR Kits (For Probe System w/ ROX) are tested in reproducibility assay: parallel 20 µl reactions containing 2 µl of human total RNA from embryonic kidney cell lysate and 0.5 µM primers, specific for d(T)18. After 35 cycles, B2M transcript is detected. The length of cDNA achieved is verified as 248 bp by electrophoresis and DNA sequencing. Tenfold serial dilution ($10^9 \sim 10^{10}$) of cDNA were amplified using primers specific to the NNV gene. Triplicate reactions at each concentration were amplified along with no-template controls. Standard curve is $r=0.995$, efficiency=94.8% and standard deviation of $Ct < 1.0$.

Storage Conditions

AmpEasy™ Cells qRT-PCR Kit (For Probe System w/ ROX) is shipped on dry ice. Buffer W should be stored at room temperature (15–25°C). All other components should be stored immediately upon receipt at -20°C in a constant temperature freezer.

Comparison Table (from cells to cDNA)

	RBC	Brand I	Brand Q
Sample	Cultured Cells	Cultured Cells	Cultured Cells
Sample Amount	5×10^4	2.5×10^5	$\leq 4 \times 10^4$
Heat Denaturation	Not Required	70°C, 3 minutes	Not Required
Buffer Format	Premixed Buffer	Individual Buffer	Premixed Buffer
Reverse Transcription	42°C, 5 minutes	42°C, 15-60 minutes	42°C, 30 minutes
Total Incubation Time	20 Minutes	53 Minutes	43 Minutes
Real-Time PCR	More sensitive than Q	Sensitive	Sensitive
Price	Cheap	Expensive	Expensive

RealScript™ cDNA Synthesis Supermix

Optimized for the highest cDNA yields for reverse transcription



Cat. No. RR001

20 µl / reaction; 50 reactions / kit

RealScript™ Reverse Transcriptase (200U/µl): 50 µl

2X First-Strand Reaction Mix: 0.5 ml

Store at
-20°C

Cat. No. RR002

20 µl / reaction; 100 reactions / kit

RealScript™ Reverse Transcriptase (200U/µl): 100 µl

2X First-Strand Reaction Mix: 1 ml

Description

RealScript™ cDNA Synthesis Supermix is specially designed for reverse transcription with any amount of RNA up to 5 µg per reaction. This optimized super mix contains all the factors needed for first-strand cDNA synthesis, including RealScript™ Reverse Transcriptase and 2X First-Strand Reaction Mix.

RealScript™ cDNA Synthesis Supermix is a unique enzyme, different from the reverse transcriptases of Moloney Murine Leukemia Virus (MMLV) or Avian Myeloblastosis Virus (AMV). As a version of mutated MMLV, RealScript™ Reverse Transcriptase is genetically engineered to increase half-life, reduce RNase H activity, increase thermal stability, increase specificity of RT, provide more full-length product and lead to the highest cDNA yield of all RTs.

RealScript™ cDNA Synthesis Supermix is ideal for cDNA synthesis using a gene-specific primer, random primer, or either total RNA or poly(A)⁺-selected RNA primed with oligo(dT). By providing high yields of first-strand cDNA in a convenient high-throughput super mix format, RealScript™ cDNA Synthesis Supermix makes reverse transcriptase simple and easy.

Features

Reduced RNase H activity results in more full-length cDNA.

Half life of 100 minutes at 50°C for the highest cDNA yields.

Ability to increase RT units without inhibiting subsequent PCR.

Full activity at 50°C for increased specificity with gene-specific primers (GSP).

Unit Definition

One unit incorporates 1 nmole of dTTP into acid precipitable material in 10 minutes at 37°C using poly(A)-oligo(dT) as template primer.

Applications

Synthesis of first-strand cDNA.

cDNA libraries.

Array labeling.

RT-PCR, primer extension, and 3' and 5' RACE.

Quality Control

RealScript™ cDNA Synthesis Supermix has passed the following quality control assays: SDS–polyacrylamide gel analysis for purity; functional absence of ribonuclease, 3' and 5' exodeoxyribonuclease, and endodeoxyribonuclease activities; yield and length of cDNA product.

Storage Conditions

RealScript™ cDNA Synthesis Supermix is shipped on dry ice and should be stored immediately upon receipt at -20°C in a constant temperature freezer.

RealScript™ One-Step RT-PCR Kit

Perform Reverse Transcription and PCR in the same tube



Cat. No. RR101

25 µl / reaction; 50 reactions / kit
 2X RealScript™ One-Step RT-PCR Master Mix: 625 µl
 Sterilized ddH₂O: 1 ml

Cat. No. RR102

25 µl / reaction; 100 reactions / kit
 2X RealScript™ One-Step RT-PCR Master Mix: 1.25 ml
 Sterilized ddH₂O: 2 ml

Description

RealScript™ One-Step RT-PCR Kit is designed for the reverse transcription and PCR amplification of a specific target RNA from either total RNA or mRNA. RealScript™ One-Step RT-PCR Kit combines the first-strand cDNA synthesis (reverse transcription) reaction and PCR reaction in the same tube, simplifying reaction setup and reducing the possibility of contamination. This one-tube system provides sensitive, quick and reproducible analysis of even rare RNA.

This kit consists of two major components: RealScript™ Reverse Transcriptase and RealSens™ HotStart DNA Polymerase. RealScript™ Reverse Transcriptase is an unique enzyme, different from the reverse transcriptases of Moloney Murine Leukemia Virus (MMLV) or Avian Myeloblastosis Virus (AMV). As a version of mutated MMLV, RealScript™ Reverse Transcriptase is genetically engineered to increase half-life, reduce RNase H activity, increase thermal stability, increase specificity of RT, provide more full-length product and lead to the highest cDNA yield of all RTs. RealScript™ Reverse Transcriptase is ideal for cDNA synthesis using a gene-specific primer, random primer, or either total RNA or poly(A)⁺-selected RNA primed with oligo(dT). RealSens™ HotStart DNA Polymerase is ideal for DNA fragment amplification. Since RealSens™ HotStart DNA Polymerase activates only after heating, it prevents the formation of mis-primed products and primer-dimers at low temperature during PCR setup and the initial PCR cycle.

This optimized RealScript™ One-Step RT-PCR Kit contains all the factors needed for reverse transcription and PCR amplification. RT-PCR can be done easily by simply adding template RNA and primers to the tube. This one-step system not only eliminates any nonspecific amplification products and reduces background smear, but also ensures highly sensitive and reproducible RT-PCR. Since it is a one-tube system, both cDNA synthesis and PCR amplification can be processed in a single tube. The simple procedure makes high-throughput analysis possible.

Features

Both cDNA synthesis and PCR amplification can be processed in a single tube. One-tube system provides sensitive, quick and reproducible analysis of even rare RNA. Ready-to-use mixture format makes cDNA synthesis and PCR amplification simple and easy. Ideal for analysis of large numbers of samples.

Applications

Virus detection.
 Single-cell RT-PCR.
 Gene-expression analysis.

Quality Control

Specificity and reproducibility of RealScript™ One-Step RT-PCR Kits are tested in reproducibility assay: parallel 25 µl reactions containing 2 µl of human total RNA from embryonic kidney cell lysate and 0.6 µM primers, specific for d(T)₁₈. After 35 cycles, B2M transcript is detected. The length of cDNA achieved is verified as 248 bp by electrophoresis and DNA sequencing.

Storage Conditions

RealScript™ One-Step RT-PCR Kit is shipped on dry ice and should be stored immediately upon receipt at -20°C in a constant temperature freezer.

RealScript™ One-Step qRT-PCR Kit (For SYBR Green System w/ROX)

Perform Reverse Transcription and qPCR in the same tube



Store at
-20°C

Cat. No. RR141

25 µl / reaction; 50 reactions / kit

2X RealScript™ One-Step qRT-PCR Master Mix: 625 µl

Sterilized ddH₂O: 1 ml

Cat. No. RR142

25 µl / reaction; 100 reactions / kit

2X RealScript™ One-Step qRT-PCR Master Mix: 1.25 ml

Sterilized ddH₂O: 2 ml

Description

RealScript™ One-Step qRT-PCR Kit (For SYBR Green System w/ROX) is designed for the reverse transcription and real-time PCR amplification of a specific target RNA from either total RNA or mRNA. RealScript™ One-Step qRT-PCR Kit (For SYBR Green System w/ROX) combines the first-strand cDNA synthesis (reverse transcription) reaction and real-time PCR reaction (For SYBR Green System w/ROX) in the same tube, simplifying reaction setup and reducing the possibility of contamination. This one-tube system provides sensitive, quick, precise and reproducible analysis of gene expression.

This kit consists of two major components: RealScript™ Reverse Transcriptase and RealSens™ Real-Time PCR Master Mix (For SYBR Green System w/ ROX). RealScript™ Reverse Transcriptase is a unique enzyme, different from the reverse transcriptases of Moloney Murine Leukemia Virus (MMLV) or Avian Myeloblastosis Virus (AMV). As a version of mutated MMLV, RealScript™ Reverse Transcriptase is genetically engineered to increase half-life, reduce RNase H activity, increase thermal stability, increase specificity of RT, provide more full-length product and lead to the highest cDNA yield of all RTs. RealScript™ Reverse Transcriptase is ideal for cDNA synthesis using a gene-specific primer, random primer, or either total RNA or poly(A)⁺-selected RNA primed with oligo(dT). RealSens™ Real-Time PCR Master Mix (For SYBR Green System w/ ROX) is highly sensitive and optimized for use with any real-time PCR cyclers using SYBR Green detection format. Since RBC SuperTaq® HotStart DNA Polymerase in RealSens™ Real-Time PCR Master Mix activates only after heating, it prevents the formation of mis-primed products and primer-dimers at low temperature during qPCR setup and the initial qPCR cycle.

This optimized RealScript™ One-Step qRT-PCR Kit (For SYBR Green System w/ROX) contains all the factors needed for reverse transcription and real-time PCR amplification. Real-Time RT-PCR can be done easily by simply adding template RNA and primers to the tube. This one-step system not only eliminates any nonspecific amplification products and reduces background smear, but also ensures highly sensitive and reproducible qRT-PCR. Since it's a one-tube system, both cDNA synthesis and qPCR amplification can be processed in a single tube. The simple procedure makes high-throughput analysis possible.

Features

Both cDNA synthesis and qPCR amplification can be processed in a single tube. One-tube system provides sensitive, quick and reproducible analysis of even rare RNA. Ready-to-use mixture format makes cDNA synthesis and qPCR amplification simple and easy. Highly-sensitive detection of even low copy numbers of target genes.

Applications

Gene expression analysis of RNA targets.
Detection of gene regulation.

Quality Control

Specificity and reproducibility of RealScript™ One-Step qRT-PCR Kit (For SYBR Green System w/ROX) is tested in reproducibility assay; parallel 25 µl reactions containing 2 µl of human total RNA from embryonic kidney cell lysate and 0.6 µM primers, specific for d(T)₁₈. After 35 cycles, B2M transcript is detected. The length of cDNA achieved is verified as 248 bp by electrophoresis and DNA sequencing.

Storage Conditions

RealScript™ One-Step qRT-PCR Kit (For SYBR Green System w/ROX) is shipped on dry ice and should be stored immediately upon receipt at -20°C in a constant temperature freezer.

RealScript™ One-Step qRT-PCR Kit (For Probe System w/ROX)

Perform Reverse Transcription and qPCR in the same tube



Store at
-20°C

Cat. No. RR161

25 µl/reaction; 50 reactions/kit

2X RealScript™ One-Step qRT-PCR Master Mix: 625 µl

Sterilized ddH₂O: 1 ml

Cat. No. RR162

25 µl/reaction; 100 reactions/kit

2X RealScript™ One-Step qRT-PCR Master Mix: 1.25 ml

Sterilized ddH₂O: 2 ml

Description

RealScript™ One-Step qRT-PCR Kit (For Probe System w/ROX) is designed for the reverse transcription and real-time PCR amplification of a specific target RNA from either total RNA or mRNA. RealScript™ One-Step qRT-PCR Kit (For Probe System w/ROX) combines the first-strand cDNA synthesis (reverse transcription) reaction and real-time PCR reaction (For Probe System w/ROX) in the same tube, simplifying reaction setup and reducing the possibility of contamination. This one-tube system provides sensitive, quick, precise and reproducible analysis of gene expression.

This kit consists of two major components: RealScript™ Reverse Transcriptase and RealSens™ Real-Time PCR Master Mix (For Probe System w/ROX). RealScript™ Reverse Transcriptase is a unique enzyme, different from the reverse transcriptases of Moloney Murine Leukemia Virus (MMLV) or Avian Myeloblastosis Virus (AMV). As a version of mutated MMLV, RealScript™ Reverse Transcriptase is genetically engineered to increase half-life, reduce RNase H activity, increase thermal stability, increase specificity of RT, provide more full-length product and lead to the highest cDNA yield of all RTs. RealScript™ Reverse Transcriptase is ideal for cDNA synthesis using a gene-specific primer, random primer, or either total RNA or poly(A)⁺-selected RNA primed with oligo(dT). RealSens™ Real-Time PCR Master Mix (For SYBR Green System w/ROX) is highly sensitive and optimized for use with any real-time PCR cyclers using sequence-specific probes format. Since RBC SuperTaq® HotStart DNA Polymerase in RealSens™ Real-Time PCR Master Mix activates only after heating, it prevents the formation of mis-primed products and primer-dimers at low temperature during qPCR setup and the initial qPCR cycle.

This optimized RealScript™ One-Step qRT-PCR Kit (For Probe System w/ROX) contains all the factors needed for reverse transcription and real-time PCR amplification. Real-Time RT-PCR can be done easily by simply adding template RNA and primers to the tube. This one-step system not only eliminates any nonspecific amplification products and reduces background smear, but also ensures highly sensitive and reproducible qRT-PCR. Since it's a one-tube system, both cDNA synthesis and qPCR amplification can be processed in a single tube. The simple procedure makes high-throughput analysis possible.

Features

Both cDNA synthesis and qPCR amplification can be processed in a single tube.

One-tube system provides sensitive, quick and reproducible analysis of even rare RNA.

Ready-to-use mixture format makes cDNA synthesis and qPCR amplification simple and easy.

Highly-sensitive detection of even low copy numbers of target genes.

Applications

Gene expression analysis of RNA targets.

Detection of gene regulation.

Quality Control

Specificity and reproducibility of RealScript™ One-Step qRT-PCR Kit (For Probe System w/ROX) is tested in reproducibility assay: parallel 25 µl reactions containing 2 µl of human total RNA from embryonic kidney cell lysate and 0.6 µM primers, specific for d(T)18. After 35 cycles, B2M transcript is detected. The length of cDNA achieved is verified as 248 bp by electrophoresis and DNA sequencing.

Storage Conditions

RealScript™ One-Step qRT-PCR Kit (For Probe System w/ROX) is shipped on dry ice and should be stored immediately upon receipt at -20°C in a constant temperature freezer.

RealPure™ DEPC-Treated Water



Guaranteed nuclease-free, suitable for all RNA work

Cat. No. **DEP125**

RealPure™ DEPC-Treated Water

125 ml

Cat. No. **DEP500**

RealPure™ DEPC-Treated Water

500 ml



Description

RealPure™ DEPC-Treated Water was prepared by 0.1 % DEPC-treatment and autoclave of highly purified water. It is autoclaved pre- and post-packaging to ensure sterility and inactivation of DEPC. It is rigorously tested for contaminating nonspecific endonuclease, exonuclease, and RNase activity. RealPure™ DEPC-Treated Water is guaranteed nuclease-free (tested for both DNase and RNase) and is suitable for all RNA work. RealPure™ DEPC-Treated Water is ready to use and requires no preparation, mixing, or autoclaving.

Features

Guaranteed nuclease-free (tested for both DNase and RNase)

Free of impurities

Ready to use and requires no preparation, mixing, or autoclaving

Suitable for all RNA work

Relatively long-storage when handled and stored properly under defined conditions

Quality Control

Absence of endo-, exodeoxyribonucleases, ribonucleases confirmed by appropriate quality tests. RealPure™ DEPC-Treated Water was tested in RT-PCR.

Applications

Commonly used in molecular biology and biochemistry applications.

RNA/DNA extraction and purification.

RNA/DNA electrophoresis and analysis.

RT or RT-PCR reactions.

Storage Conditions

RealPure™ DEPC-Treated Water is shipped and stored at room temperature (15°C~25°C). With proper storage, RealPure™ DEPC-Treated Water can be stored for years without showing any deduction in performance and quality.

Note: For research use only. Not for use in diagnostic or therapeutic procedures.

dNTP/dCTP/dATP/dGTP/dTTP(PCR Grade)

High Purity ($\geq 99\%$ pure by HPLC) suitable for RT-PCR



Cat. No. **RT013**

dNTP (PCR Grade)

10 mM, 200 μ l

dNTP is a premixed solution containing the sodium salts of dATP, dCTP, dGTP and dTTP, each at a concentration of 10 mM in water.

Cat. No. **RT014**

dCTP (PCR Grade)

100 mM, 100 μ l

Sodium salts, solution, 100 mM, pH8.3, >99% dCTP (HPLC), <0.9% dNDP

Cat. No. **RT015**

dATP (PCR Grade)

100 mM, 100 μ l

Sodium salts, solution, 100 mM, pH8.3, >99% dCTP (HPLC), <0.9% dNDP

Cat. No. **RT016**

dGTP (PCR Grade)

100 mM, 100 μ l

Sodium salts, solution, 100 mM, pH8.3, >99% dCTP (HPLC), <0.9% dNDP

Cat. No. **RT017**

dTTP (PCR Grade)

100 mM, 100 μ l

Sodium salts, solution, 100 mM, pH8.3, >99% dCTP (HPLC), <0.9% dNDP

Description

Real Biotech Corp's dNTP (RT013) contains premixed aqueous solutions of dATP, dCTP, dGTP and dTTP, each at a final concentration of 10 mM. This PCR-grade deoxynucleotide triphosphates (dNTPs) have greater than 99% purity confirmed by HPLC, are free of nuclease activities, human and E. coli DNA. This premixed ready-to-use solution offers the possibility to reduce the number of pipetting steps and the risk of reaction set up errors. Highly pure dNTPs are important for successful PCR, as the presence of contaminating impurities in PCR can result in a decrease in amplification sensitivity and product yield. dATP, dCTP, dGTP, and dTTP are also supplied separately as a 100 mM clear colorless solution of the sodium salt (pH 8.3). These PCR-grade solutions are suitable for all standard and highly sensitive PCR applications.

Features

$\geq 99\%$ purity confirmed by HPLC

DNase, RNase and Nickase free

Free from PCR inhibitors

Improved PCR results at economical price

Ideal for use in combination with all common PCR and RT-PCR enzymes

Quality Control

The performance of dNTP, dATP, dCTP, dGTP, dTTP are tested on a lot-to-lot basis. Each nucleotide functionality is confirmed by PCR and $\geq 99\%$ purity is confirmed by high-performance liquid chromatography (HPLC).

Applications

PCR, high fidelity and long range PCR assays, methylation-specific PCR (MSP), real-time PCR, low-copy real-time PCR, microarrays, LAMP-PCR, genotyping, cDNA synthesis, RT-PCR, DNA labeling and DNA sequencing, nick translation, primer extension, fill-in, TdT tailing reactions, dilution of radiolabeled dNTPs, site-directed mutagenesis, next generation sequencing.

Storage Conditions

All Deoxynucleotide should be stored immediately upon receipt at -20°C in a constant temperature freezer. All Deoxynucleotide can be stored for up to 12 months without showing any deduction in performance and quality with proper storage.

Note: PCR process is covered by patents obtained by Hoffman-La Roche. PCR is a trademark of Hoffman-La Roche.