



rt-PCR & RNA

**cDNA SYNTHESIS (REVERSE
TRANSCRIPTASE)**

RT-PCR & rt-qPCR KITS

RNase INHIBITOR

ExcelRT™ Reverse Transcriptase TR-BS1-1099 (200 U/μl, 20,000 U) TR-BS1-1100 (100 Rxn) TR-BS1-1101 (100 Rxn)

Description

The ExcelRT™ Reverse Transcriptase is a recombinant Moloney Murine Leukemia Virus (M-MLV) reverse transcriptase – an RNA dependent DNA polymerase capable of generating first strand cDNA using an RNA template. It is designed to reduce RNase H activity and create better thermal stability. The ExcelRT™ Reverse Transcriptase is able to routinely synthesize first strand cDNA > 8 kb at 37~50°C.

Additional Kit Format

The ExcelRT™ Reverse Transcription Kits contain all components to synthesize high quality first strand cDNA. The kits contain ExcelRT™ Reverse Transcriptase, RNAok™ RNase Inhibitor, oligo (dT)20 and random hexamers, which are used to synthesize cDNA from poly(A) tailed mRNA and total RNA, respectively. The RP1400 ExcelRT™ Reverse Transcription Kit II is supplied with Oligo (dT)/Random Primer Mix that is optimal for highly efficient synthesis of short chain cDNA suitable for real-time PCR.

Features

- High yield
- Thermostable, up to 50°C, during first strand synthesis
- High processivity, generating cDNA up to 8 kb
- Reduced RNase H ribonuclease activity
- No detectable 3'→ 5' exonucleolytic proofreading function
- Thermal stable for at least 4 weeks when stored at 4°C
- Suitable for real-time PCR
- Contains all components for reverse transcription (TR-BS1-1100 and TR-BS1-1101)
- Time saving for short chain cDNA synthesis (TR-BS1-1101)

Contents

TR-BS1-1099

ExcelRT™ Reverse Transcriptase

Component	Volume
ExcelRT™ Reverse Transcriptase (200 U/μl)	100 μl
5X RT Buffer	1 ml
0.1 M DTT	500 μl

TR-BS1-1100

ExcelRT™ Reverse Transcription Kit

Component	Volume
Reverse Transcriptase (200 U/μl)	100 μl
RNase Inhibitor (20 U/μl)	100 μl
5X RT Buffer (DTT)	500 μl
dNTPs (10 mM each)	200 μl
Oligo (dT)20 (50 μM)	100 μl
Random Hexamers (100 μM)	100 μl
DEPC-Treated H ₂ O	2 x 1 ml

TR-BS1-1101

ExcelRT™ Reverse Transcription Kit II

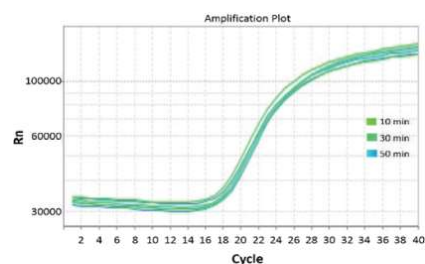
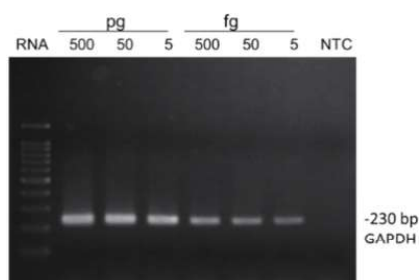
Component	Volume
RTase/RI Enzyme Mix	100 μl
5X RT Buffer (DTT/dNTP)	500 μl
Oligo (dT)/Random Primer Mix	100 μl
DEPC-Treated H ₂ O	2 x 1 ml

Unit definition

One unit is defined as the amount of enzyme that will incorporate 1 nM of dTTP into acid-insoluble material in 10 minutes at 37°C using Poly (A) • oligo(dT)25 as a template-primer.

Storage

-20°C for 12 months



Tk rt-PCR & rt-qPCR KITS

ExcelRT™ One-Step RT-PCR Kit TR-BS1-1102 (50 Rxn)

Description

The ExcelRT™ 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. The ExcelRT™ One-Step RT-PCR Kit provides the user an alternative to the lengthy two step process (first strand generation and amplification) by using a single mixture, single tube, one step reaction. The ExcelRT™ One-Step RT-PCR Kit contains a 2X reaction premix consisting of an optimized buffer, dNTPs, Mg 2+ and enzyme stabilizer, and a blend of recombinant reverse transcriptase and Taq DNA polymerase. The ExcelRT™ One-Step RT-PCR Kit allows the user to complete the RT-PCR process using a thermocycler in a single reaction setting and is ideal for target RNA amplification/ analysis capable of detecting even trace amounts of target RNA.

Features

- High throughput
- High reproducibility, less pipeting errors
- High sensitivity and yields

ExcelRT™ One-Step RT-qPCR Kit (TaqMan, ROX) TR-BS1-1103 (200 Rxn)

Description

The ExcelRT™ One-Step RT-qPCR kit (TaqMan, ROX) is designed for reverse transcription and quantitative real-time analysis of a specific target RNA by one-step reaction. The ExcelRT™ One-Step RT-qPCR kit (TaqMan, ROX), consisting of One-Step RT Enzyme Mix and 2X One-Step Master Mix, is a convenient kit designed for highly efficient cDNA synthesis and highly specific real-time PCR in a single tube. The One-Step RT Enzyme Mix contains a thermostable ExcelRT™ Reverse Transcriptase and a RNAok™ RNase inhibitor. Consequently, One-Step RT Enzyme Mix can reverse transcribe RNA to cDNA at a wide temperature range from 42 to 60°C and be active against RNase A, RNase B and RNase C. By containing specialized hot-start Taq DNA polymerase, which greatly reduce primer-dimer formation and can be activated within 2 minutes, the 2X One-Step Master Mix features high specificity and is suitable for fast cycle program. This master mix includes ROX reference dye for normalization of each RT-qPCR assay.

Features

- High yield
- Reverse transcription at wide temperature range
- High specificity
- Suitable for fast cycle program
- ROX reference dye

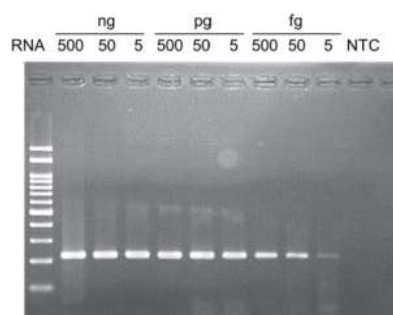
Contents

TR-BS1-1102
ExcelRT™ One-Step RT-PCR Kit

Component	Volume
2X One-Step Buffer	2 x 750 µl
Taq/RT Enzyme Mix	50 µl

Storage

-20°C for 24 months



Contents

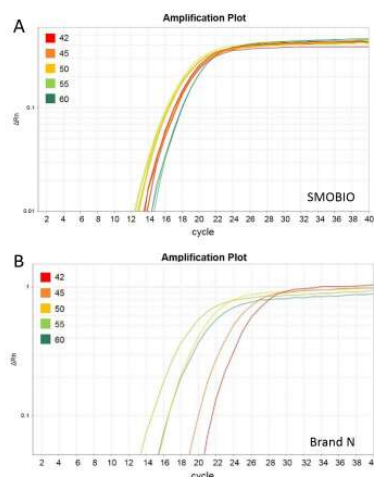
TR-BS1-1103
ExcelRT™ One-Step RT-qPCR Kit (TaqMan, ROX)

Component	Volume
One-Step RT Enzyme Mix	400 µl
2X One-Step qPCR Master Mix	2 X 1 ml

Storage

Aliquot to avoid multiple freeze-thaw cycles
(stable within 30 freeze-thaw cycles)

Protect from light
-20°C for 12 months



RNAok™ RNase Inhibitor TR-BS1-1104 (20 U/μl, 2000 U x 1) TR-BS1-1105 (20 U/μl, 2000 U x 5)

Description

RNAok™ RNase Inhibitor is a recombinant mammalian RNase inhibitor that is purified by affinity chromatography from *E. coli*. This protein inhibits pancreatic-type ribonucleases, RNase A, B, and C by binding strongly to RNases in a noncompetitive mode at a 1:1 ratio. RNAok™ RNase Inhibitor does not inhibit eukaryotic RNases T1, T2, U1, U2, CL3 as well as prokaryotic RNases I and H. RNAok™ RNase Inhibitor is compatible with RT-PCR enzymes such as AMV, M-MLV and ExcelRT™ Reverse Transcriptase or Taq DNA polymerase. Extensive quality control tests ensure RNAok™ RNase Inhibitor is free of unwanted contaminants that can plague other commercially available preparations of RNase inhibitors.

Application

- RT-PCR
- cDNA Synthesis
- in vitro transcription

Usage Recommendation

Add RNAok™ RNase Inhibitor to transcription, translation, and cDNA synthesis reactions at a final concentration of 1 Unit/μl.

Storage Buffer

20 mM HEPES-KOH (pH 7.6), 50 mM KCl, 8 mM DTT, stabilizer, 50% (v/v) glycerol

Unit Definition

One unit is defined as the amount of RNAok™ RNase Inhibitor required to inhibit the activity of 5 ng of RNase A by 50%.

Storage

-20°C for 24 months