FIREScript® RT cDNA synthesis MIX

Convenient cDNA synthesis mix with fast and robust FIREScript® Reverse Transcriptase

Genetically modified MMLV-based reverse transcriptase with increased thermostability and improved performance at elevated temperatures

- high specificity and yield
- wide reaction temperature from 37°C to 60°C
- fast 15 min reaction time
- a convenient 3-vial kit with all reaction components
- RNase inhibitor and water included
- reaction set-up and shipment without ice

Ordering

Some applications of this product may require a license which is not provided by the purchase of this product.

For research use only.

Choose Product Size

100 rxn | 100 x 20 µl rxn

500 rxn | 500 x 20 µl rxn

20 rxn | 20 x 20 µl rxn **free sample**

REQUEST FOR BULK SIZE

Reagents Provided

Item	Pcs.	Vial size
FIREScript® Enzyme mix	1	100 rxn | 150 µl
10x RT Reaction Premix with oligo (dT) and random primers	1	250 µl
Water, nuclease free	2	1.25 ml

Description

FIREScript® Reverse Transcriptase (RT) is a genetically engineered MMLV (Moloney Murine Leukemia Virus) based Reverse Transcriptase.

This is an RNA-directed DNA polymerase that can synthesize a complementary DNA strand from ssRNA or ssDNA and is active over a broad range of reaction temperatures from 37°C tp 60°C.

FIREScript® RT is a robust enzyme for RNA detection and has enhanced stability at room temperature with no activity loss for up to 1 month. This RT contains a functional RNase H domain which can increase the sensitivity of RT-qPCR (quantitative reverse transcription PCR).

Applications

First-strand cDNA synthesis

RT-PCR

RT-qPCR

Properties

Sample type: RNA

Final product: cDNA (first strand)

Product format: Enzyme mix with all reagents included

Enzyme: FIREScript® Reverse Transcriptase

Source: Purified from an *E.coli* strain that carries an overproducing plasmid containing a FIREScript® Reverse Transcriptase gene.

Unit description: One unit is defined as the amount of enzyme that will incorporate 1 nmol of dTTP into acid-precipitable material in 10 minutes at 37°C using poly(rA)•oligo(dT) as template in a total reaction volume of 50 µl.

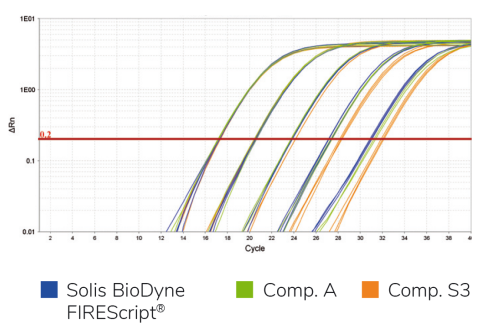
Storage and dilution buffer: 50% glycerol (v/v), 20 mM Tris-HCl pH 7.5 at 25°C, 100 mM KCl, 0.1 mM EDTA and stabilizers.

Reagents

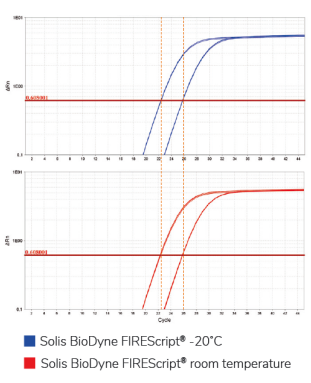
FIREScript® Enzyme Mix (FIREScript® RT and RiboGrip RNase inhibitor)

10x RT Reaction Premix with Oligo (dT) and Random primers RT reaction buffer with DTT, dNTPs, Oligo (dT) primer and Random primers

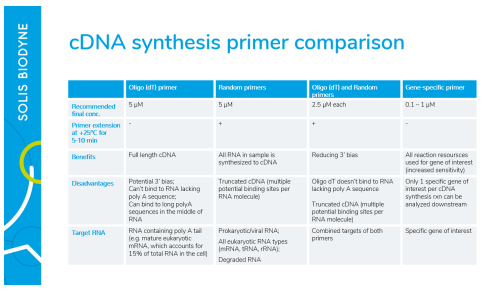
Water, nuclease free



Highly competitive enzyme



Exceptional stability



	Oligo (dT) primer	Random primers	Oligo (dT) and Random primers	Gene-specific primer
Recommended final conc.	5 µM	5 µM	2.5 µM each	0.1 – 1 µM
Primer extension at +25°C for 5-10 min	-	+	+	-
Benefits	Full length cDNA	All RNA in sample is synthesized to cDNA	Reducing 3' bias	All reaction resources used for gene of interest (increased sensitivity)
Disadvantages	Potential 3' bias; Can't bind to RNA lacking poly A sequence; Can bind to long polyA sequences in the middle of RNA	Truncated cDNA (multiple potential binding sites per RNA molecule)	Oligo dT doesn't bind to RNA lacking poly A sequence Truncated cDNA (multiple potential binding sites per RNA molecule)	Only 1 specific gene of interest per cDNA synthesis run can be analyzed downstream
Target RNA	RNA containing poly A tail (e.g. mature eukaryotic mRNA, which accounts for 15% of total RNA in the cell)	Prokaryotic/viral RNA; All eukaryotic RNA types (mRNA, tRNA, rRNA); Degraded RNA	Combined targets of both primers	Specific gene of interest

cDNA synthesis priming options

India Contact:
Life Technologies (India) Pvt. Ltd.
306, Aggarwal City Mall, Opposite M2K Pitampura,
Delhi – 110034 (INDIA).Ph: +91-11-42208000, 42208111, 42208222
Mobile: +91-9810521400
Fax: +91-11-42208444
Email: customerservice@lifetechindia.com
Web: www.lifetechindia.com