

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) primer	1	250 µl
Water, nuclease free	2	1.25 ml

Description

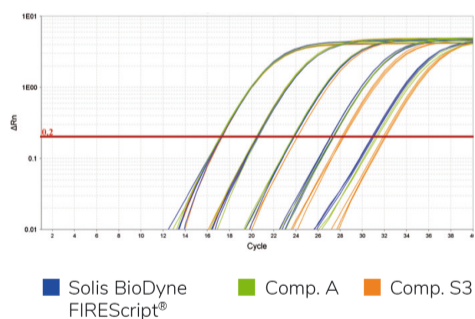
FIREScript® Reverse Transcriptase (RT) is a genetically engineered MMLV (Moloney Murine Leukemia Virus) based Reverse Transcriptase.

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 to 60°C.

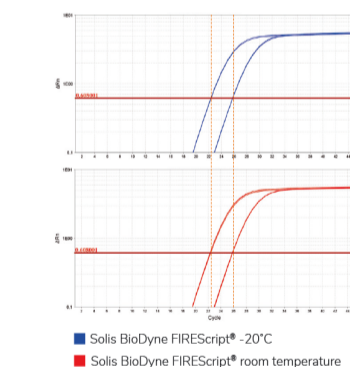
FIREScript® RT is a robust enzyme for RNA detection and has enhanced stability at room temperature with no activity loss for up to 1 month. This RT contains a functional RNase H domain which can increase the sensitivity of RT-qPCR (quantitative reverse transcription PCR).

Applications

First-strand cDNA synthesis
RT-PCR
RT-qPCR



Highly competitive enzyme



Exceptional stability

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) primer
RT reaction buffer with DTT, dNTPs and Oligo (dT) primers
- Water, nuclease free

	Oligo (dT) primer	Random primers	Oligo (dT) and Random primers	Gene specific primers
Recommended Reaction	5 µM	5 µM	2.5 µM each	0.1 - 1 µM
Reaction extension at 37°C for 5-10 min	-	-	-	-
Benefits	Full length cDNA	All RNA is sample is converted to cDNA	Reducing 3' bias	All reaction resources used for genes of interest (increased sensitivity)
Disadvantages	Potential 3' bias; Can bind to RNA lacking poly-A sequences; Can bind to long poly-A 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 and RNA; All eukaryotic RNA types (mRNA, tRNA, rRNA); Degraded RNA		Specific gene of interest

cDNA synthesis priming options

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