

Thermo Scientific Verso cDNA Kit

Introduction

Verso cDNA Kit supplies all the reagents to generate high yields of full-length cDNA from all RNA types.

- Verso Enzyme Mix includes Verso Reverse Transcriptase, which is active at high temperatures, is highly sensitive and can generate long cDNA strands. This mix also contains RNase inhibitor to protect RNA templates from degradation.
- 5X cDNA Synthesis Buffer, a proprietary reaction buffer which has been optimized to improve reverse transcription across a wide range of templates.
- Anchored oligo-dT primers and random hexamers provide flexible RNA priming methods for cDNA synthesis.
- RT Enhancer is included to remove contaminating DNA, eliminating the need for DNase I treatment.

Kit Contents

Vial	Pack Size (cap color)	
	A	B
Verso Enzyme Mix	40 µL (black)	100 µL (black)
5X cDNA synthesis Buffer	500 µL (red)	500 µL (red)
Anchored Oligo-dT (500 ng/µl)	40 µL (orange)	100 µL (orange)
Random Hexamer (400 ng/µl)	40 µL (blue)	100 µL (blue)
dNTP Mix (5mM each)	200 µL (purple)	200 µL (purple)
RT Enhancer	40 µL (yellow)	100 µL (yellow)

Information

Verso Reverse Transcriptase

Verso is an RNA-dependent DNA polymerase with a significantly attenuated RNase H activity compared to *Reverse-iT*[™]. Verso can synthesize long cDNA strands, up to 11 kb, at a temperature range of 42°C to 57°C. The recommended amount of total RNA to use is between 1 pg and 1 µg.

RNA Priming

It is recommended that RNA primers be added to the **final** 1X reaction as follows:

1 µL of anchored oligo-dT (orange cap) or 1 µL of random hexamers (blue cap) or 1 µL of a blend of random hexamers and anchored oligo-dT 3:1 (v/v) or gene-specific primer (to final concentration of 0.5 – 2 µM).

Anchored oligo dT is not suitable for use with most prokaryotic RNA. In these cases, random hexamers or gene-specific primers are recommended.

RT Enhancer

RT Enhancer is included to remove contaminating DNA, eliminating the need for DNase I treatment. It degrades double stranded DNA during the transcription of RNA and is inactivated after 2 minutes at 95°C.

Storage Conditions

Store at -20°C until ready for use. Verso cDNA Kit is stable for a minimum of 12 months. Avoid repeated freeze thawing. Shipped on ice within the UK and on dry ice for international and within the US.

Additional Info

- The use of disposable gloves, RNase and DNase free filter tips and plastics is recommended.
- If DNase I treatment has been performed, RT Enhancer is not required.

Tips Before Use

Thaw the reagents on ice. Mix and spin down the solutions before use to recover the maximum amount.

Do not vortex the Verso Enzyme Mix.

Briefly centrifuge to avoid bubbles within the wells. Always include a no template control (NTC) and a no enzyme control (NEC).

Directions for Use

Protocol

Example of reaction mix preparation.

The volume of each component is for a **20 µL final reaction**.

		Volume	Volume
Reaction Mix	5X cDNA synthesis buffer	4 µL	1X
	dNTP Mix	2 µL	500 µM each
	RNA Primer ¹	1 µL	
	RT Enhancer	1 µL	
	Verso Enzyme Mix	1 µL	
	Water (PCR grade) ²	Variable	
Template (RNA) ^{3,4}	1 - 5 µL	1 ng	
	Total volume	20 µL	

Example of a reverse transcription cycling program:

	Temp.	Time	Number of cycles
cDNA Synthesis ⁵	42°C	30 min	1 cycle

Store samples at -20°C.

Notes

1. For more information, please refer to the “RNA Priming” section.
2. The volume of the total reaction should be completed up to 20 µL with water.
3. To remove secondary structure, heat at 70°C for 5 minutes and place immediately on ice.
4. The amount of RNA added as a template should be between 1 pg and 1 µg.
5. Depending on the length of template and degree of secondary structure, the efficiency of the first strand synthesis maybe improved by optimizing temperature and time (42-57°C for 5-60 minutes).

Quality control

Verso cDNA Kit is tested functionally for use in RT-PCR.

Ordering Information

AB-1453/A	Verso cDNA Kit	40 x 20 µL rxns
AB-1453/B	Verso cDNA Kit	100 x 20 µL rxns

Related Products

Cat No.	Description	Quantity
AB-2400	ABgene SuperPlate Semi-Skirted 96-Well PCR Plate	25 plates
AB-2400/W	ABgene SuperPlate Semi-Skirted 96-Well PCR Plate, white	25 plates
AB-2800	ABgene SuperPlate Skirted 96-Well PCR Plate	25 plates
AB-2800/W	ABgene SuperPlate Skirted 96-Well PCR Plate, White	25 plates
AB-0745	Easy Peel (heat seal)	100 sheets
AB-0626	Adhesive PCR Foil	100 sheets
AB-0558	Adhesive PCR Film	100 sheets
AB-0386	Strips of 8 Domed Caps	120 sheets
AB-0783	Strips of 8 Flat Caps	120 sheets

Troubleshooting

For technical information or troubleshooting contact Thermo Scientific Genomics Tech Support:

	<i>Email</i>	<i>Phone</i>
<i>North America (US, Canada, Central/South America)</i>	Techservice.genomics@thermofisher.com	+1 (800) 235-9880
<i>Europe (EU, Middle East, Africa)</i>	Techservice.emea.genomics@thermofisher.com	(+)44 1372 840410
<i>Other Countries</i>	www.thermo.com/dharmacondistributors	

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