

SMART® MMLV Reverse Transcriptase

Catalog No.	Amount	Lot Number
639522	2,000 units	Specified on product label.
639523	8,000 units	Specified on product label.
639524	20,000 units	Specified on product label.

Description

SMART MMLV Reverse Transcriptase is an ultra-pure, recombinant Moloney Murine Leukemia Virus reverse transcriptase (MMLV RT). This highly purified protein is a fully active RT that is free of exogenous RNases and other nucleases. As a result, SMART MMLV RT is able to synthesize a higher percentage of full-length cDNAs, making it the ideal enzyme for a wide range of applications.

Package Contents

639522 (2,000 U; 20 rxns):

- 10 µl SMART MMLV RT (200 U/µl)
- 300 µl 5X First-Strand Buffer
- 165 µl 100 mM DTT

639523 (8,000 U; 80 rxns):

- 40 µl SMART MMLV RT (200 U/µl)
- 300 µl 5X First-Strand Buffer
- 165 µl 100 mM DTT

639524 (20,000 U; 200 rxns):

- 100 µl SMART MMLV RT (200 U/µl)
- 1 ml 5X First-Strand Buffer
- 500 µl 100 mM DTT

Storage Conditions

- Store at -20°C.

Shelf Life

- 1 year from date of receipt under proper storage conditions.

Shipping Conditions

- Dry ice (-70°C)

Takara Bio USA, Inc.

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Product Documents

Documents for our products are available for download at takarabio.com/manuals

The following documents apply to this product:

- SMART MMLV Reverse Transcriptase Protocol-at-a-Glance (PT4045-2)

Quality Control Data

This lot of purified SMART MMLV RT was tested to ensure the quality and performance of the enzyme.

Functional Analysis: First-strand cDNA synthesis

SMART MMLV RT and a modified oligo(dT)₁₈ primer were used to reverse transcribe a ladder of ten poly A⁺ RNA transcripts ranging in size from 0.5 to 9 kb and an additional poly A⁺ transcript of 10 kb. Following a 1 hr incubation at 42°C, the products were separated on an alkaline-agarose gel and visualized using a single-strand DNA-binding dye and UV illumination. At a minimum, distinct bands with minimal smearing were observed for all cDNAs up to 10 kb.

Raw Material Analysis: Ribonuclease contamination assay

To ensure the absence of ribonucleases, SMART MMLV RT was incubated with an RNA ladder under conditions typical for first-strand cDNA synthesis (excluding primer and dNTPs). In this assay, 1 µl of SMART MMLV RT was incubated with 3 µg of an RNA ladder for 1 hr at 37°C. Following incubation, the sample was analyzed by electrophoresis on a formaldehyde-agarose gel. No degradation of the RNA bands was observed when compared to a control sample containing RNA and buffer but no enzyme.

Additional Testing

This preparation of SMART MMLV RT was further analyzed to ensure the absence of the following contaminants:

- Endonucleases: none detected
- Exonucleases: none detected
- DNA contamination: none detected

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CATALOG NO.

639522, 639523, 639524

NOTICE TO PURCHASER:

Our products are to be used for research purposes only. They may not be used for any other purpose, including, but not limited to, use in drugs, in vitro diagnostic purposes, therapeutics, or in humans. Our products may not be transferred to third parties, resold, modified for resale, or used to manufacture commercial products or to provide a service to third parties without prior written approval of Takara Bio USA, Inc.

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