

## SMART® MMLV Reverse Transcriptase

Catalog Nos.	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 can synthesize a higher percentage of full-length cDNAs, making it the ideal enzyme for a wide range of applications.

### Package Contents

<u>639522</u> (2,000 U; 20 rxns)	<u>639523</u> (8,000 U; 80 rxns)	<u>639524</u> (20,000 U; 200 rxns)	
10 µl	40 µl	100 µl	SMART MMLV RT (200 U/µl)
300 µl	300 µl	1 ml	5X First-Strand Buffer
165 µl	165 µl	500 µl	100 mM DTT

### Storage Conditions

- Store at –20°C.

### Expiration Date

- Specified on product label.

### Shipping Conditions

- Dry ice

### Product Documents

Documents for our products are available for download at [takarabio.com/manuals](http://takarabio.com/manuals)

The following documents apply to this product:

- SMART MMLV Reverse Transcriptase Protocol-at-a-Glance

### 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)<sub>18</sub> primer were used to reverse transcribe a ladder of eight poly A<sup>+</sup> RNA transcripts ranging in size from 0.5–10 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.

#### Takara Bio USA, Inc.

2560 Orchard Parkway, San Jose, CA 95131, USA

U.S. Technical Support: [technical\\_support@takarabio.com](mailto:technical_support@takarabio.com)

United States/Canada  
800.662.2566  
(032723)

Asia Pacific  
+1.650.919.7300

Europe  
+33.(0)1.3904.6880

Japan  
+81.(0)77.565.6999

## **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  $\mu$ l of SMART MMLV RT was incubated with 3  $\mu$ g 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

It is certified that this product meets the above specifications, as reviewed and approved by the Quality Department.

## SMART® MMLV Reverse Transcriptase

### CATALOG NOS.

639522, 639523 & 639524

### NOTICE TO PURCHASER:

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