# Certificate of Analysis

## MMLV Reverse Transcriptase, GPR

| Catalog No. | Amount | Lot Number |
|---|---|---|
| 639574 | 2,000 units | Specified on product label. |
| 639575 | 8,000 units | Specified on product label. |
| 639576 | 20,000 units | Specified on product label. |

## Description

MMLV Reverse Transcriptase, GPR is a registered general purpose reagent (GPR) appropriate for use in general laboratory applications, including molecular diagnostic development and testing. It 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, MMLV Reverse Transcriptase, GPR is able to synthesize a higher percentage of full-length cDNAs, making it the ideal enzyme for a wide range of applications.

### Package Contents

**639574 (2,000 U; 20 rxns):**

- 10 µl MMLV Reverse Transcriptase, GPR (200 U/µl)
- 300 µl 5X Reverse Transcription Buffer
- 165 µl DTT (100 mM)

**639575 (8,000 U; 80 rxns):**

- 40 µl MMLV Reverse Transcriptase, GPR (200 U/µl)
- 300 µl 5X Reverse Transcription Buffer
- 165 µl DTT (100 mM)

**639576 (20,000 U; 200 rxns):**

- 100 µl MMLV Reverse Transcriptase, GPR (200 U/µl)
- 1 ml 5X Reverse Transcription Buffer
- 500 µl DTT (100 mM)

### Storage Conditions

- Store at –20°C.

### Shelf Life

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

### Shipping Conditions

- Dry ice (–70°C)

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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:

- MMLV Reverse Transcriptase, GPR Protocol-at-a-Glance

## Quality Control Data

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

### Functional Analysis: First-strand cDNA synthesis

MMLV RT, GPR 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. 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 9 kb.

### Raw Material Analysis: Ribonuclease contamination assay

To ensure the absence of ribonucleases, MMLV RT, GPR was incubated with an RNA ladder under conditions typical for first-strand cDNA synthesis (excluding primer and dNTPs). In this assay, 1 µl of MMLV RT, GPR 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.

Enzyme purity >90% as assayed by microfluidic chip.

### Additional Testing

This preparation of MMLV RT, GPR 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.

# Notice to Purchaser

# MMLV Reverse Transcriptase, GPR

## CATALOG NO.

**639574, 639575, 639576**

**NOTICE TO PURCHASER: General Purpose Reagent**

This product is a general purpose reagent intended **For Laboratory Use**. Outside of the United States, this product is intended for research use only unless otherwise stated. This product is not intended for a specific application or made for any particular clinical use. The performance characteristics of this product have not been fully established. It is the user´s responsibility to validate the performance of the product, and any component thereof, for any particular use. Resale or transfer of this product, any component thereof, or any substance produced through use of this product, or any component thereof, to any third party is expressly forbidden. To obtain additional rights, please contact licensing@takarabio.com.

Your use of this product is also subject to compliance with the licensing requirements, listed below if applicable, and described on the product´s web page at http://www.takarabio.com. It is your responsibility to review, understand and adhere to any restrictions imposed by these statements.

**TRADEMARKS:**



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