

**M-MuLV Reverse Transcriptase**  
**Store at -20°C**

**Product Description**

Moloney Murine Leukemia Virus (M-MuLV) Reverse Transcriptase is a DNA polymerase which utilizes RNA as a substrate. This enzyme can perform cDNA synthesis by extending off a DNA primer annealed to an RNA template, or can copy a single-stranded DNA template. M-MuLV Reverse Transcriptase is completely deficient in 3'-5' proofreading exonuclease function.

**Source of Protein**

A recombinant *E. coli* strain carrying the Moloney Murine Leukemia Virus Reverse Transcriptase gene.

**Components included with this product**

Component Name	NP100039	NP100040
M-MuLV Reverse Transcriptase supplied in 10 mM Tris-HCl, pH 7.6, 150 mM NaCl, 1 mM DTT, 0.1 mM EDTA, 0.1% NP40 alternative, 50% Glycerol.	50 µL (200 U/µL)	250 µL (200 U/µL)
10X M-MuLV Reaction Buffer containing 500 mM Tris-HCl, pH 8.3, 30 mM MgCl <sub>2</sub> , 750mM KCl, 100 mM DTT, 1 mM EDTA.	1.5 mL	1.5 mL

**Storage Conditions**

Store at -20°C.

**Concentration**

200 units/µL

**Unit Definition and Unit Characterization Assay**

1 unit is defined as the amount of enzyme required to incorporate 1 nmol of dTTP into acid insoluble material in 10 minutes at 37°C using poly r(A)/oligo (dT) as a substrate.

Unit activity is measured using a 2-fold serial dilution method. Dilutions of enzyme are made in 1X M-MuLV RT Buffer ([RT]<sub>f</sub> = 0.002-0.00002 µg/µL) and added to 50 µL reactions containing 20 µg poly r(A) DNA, 10 µg oligo (dT), 1X RT Buffer, 4mCi/mL <sup>3</sup>H-dTTP and 250 µM dTTP. Reactions are incubated 10 minutes at 37°C, plunged on ice, and analyzed using the method of Sambrook and Russell.

**Quality Assurance**

Purified free of contaminating endonucleases and exonucleases. In addition, enzyme purity is analyzed by SDS-PAGE, and negligible *E.coli* genomic DNA is confirmed by qPCR.

**Safety and Use Statement**

All biological materials should be handled as potentially hazardous. Follow universal precautions as established by the Centers for Disease Control and Prevention and by the Occupational Safety and Health Administration when handling and disposing of potentially infectious or hazardous agents. This product is authorized for laboratory research use only. The product has not been qualified or found safe and effective for any human or animal diagnostic application. Uses other than the labeled intended use may be a violation of applicable law.

**Applications**

cDNA synthesis from single-stranded RNA or DNA.  
 Multiple transcripts can be analyzed from a single RT-reaction

**Suggested Reaction Conditions**

Incubate at 37°C with 1X M-MuLV Reaction Buffer supplemented with 100 µM dNTPs (not included)

**Heat Inactivation**

No

**References**

Sambrook and Russell Molecular Cloning, vol3, 2001, pp. A8.25-A8.26.