

LaboPass™ M-MuLV Reverse Transcriptase

Cat. No CMRT010
Cat. No CMRT050

10,000 unit (200 unit/μl)
50,000 unit (200 unit/μl)

Lot No.

Note: For laboratory use only

Description

LaboPass™ M-MuLV Reverse Transcriptase is a recombinant form of the reverse transcriptase from the Moloney Murine Leukemia Virus (M-MuLV) which possesses enhanced cDNA synthesis activity and reduced RNase H activity. Reduction of RNase H activity enables higher yield of full-length cDNA transcripts and increased thermostability over wild type enzyme. The enzyme can synthesize cDNA using either RNA or single stranded DNA as a template. It is expressed in *E.coli* and purified with high purity.

Contents

	CMRT010	CMRT010
• M-MuLV Reverse Transcriptase (200 unit/μl)	10,000 unit	50,000 unit
• 5X RT reaction buffer	1 ml	1 ml X 2 vials
• dNTPs (Each 10 mM)	0.1 ml	0.5 ml
Store at -20°C		

Applications

- First strand cDNA synthesis
- RT-PCR or qRT-PCR
- cDNA labeling for microarray or other applications

Unit Definition

One unit is defined as the amount of enzyme that incorporates 1 nmole of dTTP into acid-insoluble material in 10 min at 37 °C using poly(A)-oligo(dT) as template-primer.

5X RT reaction buffer

250 mM Tris-HCl (pH 8.3), 375 mM KCl,
30 mM MgCl₂, 25 mM DTT

Storage Buffer

20 mM Tris-HCl (pH 7.5), 200 mM NaCl, 0.1 mM EDTA,
1 mM DTT, 0.01 % (v/v) NP-40, 50 % (v/v) Glycerol

Standard Protocol

1. Add the following components into a sterile, nuclease-free tube for each 20 μl reaction:

RNA template	10 pg to 5 μg according to target abundance
Primer	100 pmole oligo(dT) ₁₂₋₁₈ or random primer
	10 to 20 pmole gene-specific primer
dNTPs (each 10 mM)	1 μl
Nuclease-free water	up to 14 μl

2. Heat for 5 min at 65 °C, quick chill on ice and briefly spin-down.

3. Add the following components to the above mixture and gently mix

5X RT reaction buffer	4 μl
RNase inhibitor (40 unit/μl)*	1 μl
M-MuLV Reverse Transcriptase	1 μl

*Addition of RNase inhibitor greatly improves yield of cDNA

4. Incubate at 42 °C for 30 ~ 60 min.

5. Inactivate enzyme by heating at 70 °C for 15 min.

6. Store at -20 °C until use