

# M-MLV Reverse Transcriptase

**[Cat. No.]**

E – 3121 (10,000 units)  
E – 3122 (50,000 units)

**[Lot No.]**  
0703

**[Concentration]**  
200 units/μL

● **Description** : Moloney Murine Leukemia Virus(M-MLV) Reverse Transcriptase is an RNA-dependent DNA polymerase. This enzyme is able to use an RNA molecule as a template and synthesize a double-strand DNA.

● **Source** : M-MLV Reverse Transcriptase is isolated from a *E.coli* strain containing a recombinant clone.

● **Application** : First-strand synthesis of cDNA from RNA molecules.

● **Supplied with Enzyme**

- **M-MLV Reverse Transcriptase (10,000U): 50μl (200U/ul)**
- **5X Reaction Buffer (0.5 mL)** : 50 mM Tris-HCl, 250 mM KCl, 10 mM MgCl<sub>2</sub>, pH8.1
- **100mM DTT (0.2 mL)**

● **Storage condition** : 20 mM Tris-Cl (pH7.6), 150 mM NaCl, 0.1 mM EDTA, 1 mM DTT, 0.1 % IGEPAL CA-630, 50 % Glycerol, store at -20 °C

● **Unit Definition** : One unit is defined as the amount of enzyme required to incorporate 1 nmole of dTTP into acid-precipitable material in 10 min at 37 °C using poly(A)•oligo(dT) as template primer.

● **Quality Assurance** : DNase and RNase activity is not detected after incubation of 1 μg of DNA and RNA with 200 units of M-MLV Reverse Transcriptase for 3 hours at 37 °C – 42 °C.

- **Application protocol**  
- **first-strand cDNA synthesis [ 20 μL reaction volume ]**

**Step 1**

**Total RNA or RNA**

→ 1 μg total RNA or 5 ng-100 ng RNA

**Oligo dT (or random primer)**

→ 10 – 100 pmoles

DEPC water( RNase - and DNase – free )

→ variable volume

→ **Denature RNA and primer for 10 min at 65 °C**

→ **Immediately cool on ice**

**Step 2**

5X M-MLV RTase reaction buffer	4 μL
100mM DTT	2 μL
dNTP	variable volume
RNase inhibitor	20 units
M-MLV RTase	200 units

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Total (Step1 + Step 2) 20 μL

→ **cDNA synthesis for 1 hr at 37-42 °C**

- **Note** : Store the buffer in small aliquots at -20 °C to minimize degradation of the DTT

**Note**

For research use only.  
Not for use in diagnostic  
or therapeutic pro-  
cedures.