

TargetEx Rapid Reverse Transcriptase 2 mg/mL

Catalogue Number: TGX-003-BS/-BM/-BL

INTRODUCTION

TargetEx Rapid Reverse Transcriptase is a genetically engineered form of M-MLV RTase, designed to have lower RNase H activity and increased thermal stability. It is highly purified from *E. coli*, carrying a genetically altered *pol* gene derived from M-MLV. This enzyme is ideal for first-strand cDNA synthesis, offering improved specificity, higher cDNA yields, and a greater proportion of full-length transcripts compared to common reverse transcriptases. It is capable of generating cDNA from fragments up to 9 kilobases.

Store the product at -20 °C.

PREPARATION

Prepare 3-fold enzyme dilution from the 2 mg/mL polymerase stock with 20 mM Tris, 100 mM NaCl, 0.1 mM EDTA, 1 mM DTT, 50% glycerol, pH=7.5 buffer. Use 1 µL from this enzyme dilution for 20 µL reaction volume.

TYPICAL REACTION ASSEMBLY

For first-strand cDNA synthesis, mix NFW, oligo(dT) primer, RNA template, and dNTP mix, then place it into the thermal cycler and run Step 1 of the thermal cycler program (initial heating). After completion, remove the plate from the cycler and add the remaining materials listed in the component list below. Continue with Steps 2 and 3 of the thermal cycler program (synthesis and inactivation).

COMPONENT LIST

Material	Volume to 20 µL (single measurement)	Recommended final concentration
Nuclease-Free Water (NFW)	10 µL	N/A
oligo _(dT) 20 (50 µM)	1 µL	Variable
RNA template (10 pg – 5 µg)	1 µL	Variable
dNTP mix (10 mM each)	1 µL	1 mM
5X First Strand Buffer	4 µL	1X
DTT (0.1 mM)	1 µL	5 µM
RibonEx Recombinant RNase Inhibitor (40 U/µL)	1 µL	40 U/reaction
3X diluted TargetEx Rapid Reverse Transcriptase 2 mg/mL	1 µL	~200 U/reaction

THERMAL CYCLER PROGRAM SETUP

No.	Step	Temperature (°C)	Duration
1	Initial Heating	65	5 min
2	First Strand Synthesis	50-55	30-60 min
3	Inactivation	75	15 min

If you need further information or would like to try our products, please do not hesitate to contact us at info@targetex.com.

