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EliZyme™ Reverse Transcriptase

Intended use:

For Research Use Only. Not for use in diagnostic procedures.

Storage:

Upon arrival store components at -20 °C. Avoid prolonged exposure to light. When stored under these conditions, the kit will retain full activity until the expiration date indicated on the kit label. Avoid exposure of the stock solution to frequent temperature changes and limit handling at room temperature to the necessary minimum.

Product description

EliZyme™ Reverse Transcriptase is a powerful tool for researchers in molecular biology and biochemistry. This reverse transcriptase utilizes the latest advancements in technology and buffer chemistry to provide high-speed and high-yield cDNA synthesis with accurate transcript representation. The buffer system enables efficient, non-biased, and sensitive cDNA synthesis. EliZyme™ Reverse Transcriptase is derived from Moloney Murine Leukemia Virus (M-MLV) and has been modified to increase its activity and thermostability. Unlike many other reverse transcriptases, EliZyme™ Reverse Transcriptase is not inhibited by ribosomal and transfer RNAs, making total RNA an ideal substrate. The enzyme is blended with RNase inhibitor, which helps prevent RNA degradation by contaminating RNase, thereby ensuring high-quality cDNA synthesis. The enzyme can be used to synthesize cDNA at temperatures up to 55 °C, which allows reverse transcription of regions containing high secondary structures. EliZyme™ Reverse Transcriptase is suitable for a variety of applications, including gene expression analysis, cloning, sequencing, and more. It is a reliable and efficient tool for any researcher looking to study RNA or gene expression.

Content

	Ref. No.	Size	Package
EliZyme™ Reverse Transcriptase	EZ8005	1×50 µl (200 U/µl) + 1×200 µl buffer	50 rxns
	EZ8020	4×50 µl (200 U/µl) + 4×200 µl buffer	200 rxns

	Buffer/MIX	Content
EliZyme™ Reverse Transcriptase	5× buffer	15 mM $MgCl_2$, 5 mM dNTPs

Additional $MgCl_2$ or enhancers are not necessary. The buffer composition has been optimized to generate high yield, non-biased cDNA for downstream applications.

Primers

In the following table are listed suggested primer concentrations. For non-biased, non-specific amplification is recommended to use both random hexamers and oligo $(dT)_{18}$.

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Oligo type	Reaction concentration	10× Stock concentration
Specific primers	1 pM	10 pM
Random hexamers	2–5 µM	20–50 µM
Oligo $(dT)_{18}$	1 µM	10 µM

Reaction setup

After thawing, briefly vortex 5X EliZyme™ RT Buffer and shortly spin.

Reagent	20 µl reaction	Final conc.
5× EliZyme™ RT Buffer	4 µl	1×
Reverse transcriptase (200 U/µl)	1 µl	
Template RNA/oligo (dT) purified mRNA	4.0 pg – 0.4 µg*	Variable
10× Primer mix	2 µl**	1×
PCR grade water	Up to 20 µl	

* Use 4.0 pg to 0.4 µg total RNA or oligo(dT) purified mRNA. For template amounts greater than 0.4 µg we recommend EliZyme™ Reverse Transcriptase 2.0.
** Incubating primer mix with template for 5 minutes at 70 °C before adding to reaction mix will increase cDNA yield. However, this step is not necessary for accurate quantification.

Reverse transcription profile

Step	Temperature	Time	Cycles
Reverse transcription	42–55 °C*	30 min	1
Enzyme denaturation	85 °C	10 min	1

* We recommend incubating with a temperature of 42 °C for 30 minutes for the majority of applications (<65 % GC). Where regions of interest contain high secondary structure (>65 % GC) incubation temperatures of up to 55 °C may be used.

Manufacturer:

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Catalog number

Batch code


Use by (last day of month)


Upper limit of temperature


Manufacturer

Contains sufficient "N" tests