Tinzyme Co., Limited

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Thermalstable T7 RNA Polymerase

Product Number: TR02

Shipping and Storage

-20℃

Components

Components	TR02	TR02
Thermostable T7 RNA Polymerase (50U/μl)	100μl	500μl
10×Transcription Buffer	1ml	1ml×5

Description

Thermalstable T7 RNA Polymerase is a genetically modified T7 RNA polymerase.This enzyme highly specifically recognizes the T7 promoter sequence and can perform efficient in vitro transcription at 50℃.During the in vitro transcription process, it can improve the capping efficiency and eliminate the production of dsRNA byproducts.

Features

The T7 promoter has high specificity and is used for the synthesis of in vitro RNA (including small RNAs).

Application

1. Synthesis of single stranded RNA;
2. Synthesis of highly specific RNA probes;
3. Synthesis of siRNA precursors;
4. Produce precursors for RNA splicing reactions;
5. Using cap analog as a primer, produce Capped mRNA.

Unit definition

The amount of enzyme required to mix 1 nmol of [^{3}H] GMP with acid insoluble precipitate within 1 hour at 50℃ and pH 8.0 is defined as 1 active unit.

Quality Control

After multiple column purification, SDS-PAGE gel detection only showed clear and single target bands, with a purity of 95%. PCR detection showed no residual Escherichia coli DNA and no contamination of RNase, nucleic acid endonucleases, and exonucleases.

Suggestions

1. For effective transcription in specific regions, it is recommended to pre cut the template DNA into flat or 5 'protruding ends downstream of the region.
2. The binding of spermidine in the buffer with nucleic acid may form insoluble substances, and it is recommended to add template DNA finally.

Reaction system

10×Transcription Buffer	2μl
ATP/GTP/CTP/UTP Mix Each	2mM
Template DNA	20ng-1μg

Thermostable T7 RNA Polymerase (50U/μl)	50U
RNase Free Water	Up to 20μl

React at 50℃ for 1 hour.

Note:1)RNase inhibitor can be added to 1U/μl in the reaction system to prevent RNase contamination;

2)For effective transcription in specific regions, it is recommended to pre cut the template DNA into flat or 5 'protruding ends downstream of the region;

3)The binding of spermidine in the buffer with nucleic acid may form insoluble substances, and it is recommended to add template DNA finally;

4)The template DNA should be RNase A-Free, high-purity, and the recommended OD260/280 should be 1.8-2.0.

Related Products

Product Number	Product Name
M062	Vaccinia Capping Enzyme
GMP-RI01	RNase Inhibitor, GMP Grade
M072	mRNA Cap 2′ O Methyltransferase
GMP-DI05	DNase I Recombinant GMP grade
M012	Poly(A) Polymerase
M036	Pyrophosphatase, Inorganic (yeast) (ppase)
E131	T7 High Yield RNA Transcription kit