Tinzyme Co., Limited

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T7 RNA Polymerase

Product Number: TR01

Description

T7 RNA polymerase, an enzyme encoded by phage T7 DNA, is a highly specific 5'→3' RNA polymerase that recognizes the DNA dependence of the T7 promoter sequence. It takes single or double stranded DNA containing the T7 promoter sequence as the template and NTP as the substrate to synthesize RNA complementary to the single stranded DNA downstream of the promoter.

Product Feature

Height recognition of the T7 promoter.

Application

1. Synthesis of RNA (including small RNA) in vitro.
2. Synthesis of highly specific RNA probes.
3. Synthesis of siRNA precursors.
4. Make the precursor of RNA splicing reaction.
5. Synthesis of capped RNA using cap analogues.

Suggestion:

1. For efficient transcription of a specific region, it is recommended that the template DNA be pre-cut into flat ends or 5 'protruding ends downstream of the region.
2. Spermidine in buffer may combine with nucleic acid to form insoluble substance. It is recommended to add template DNA at last.

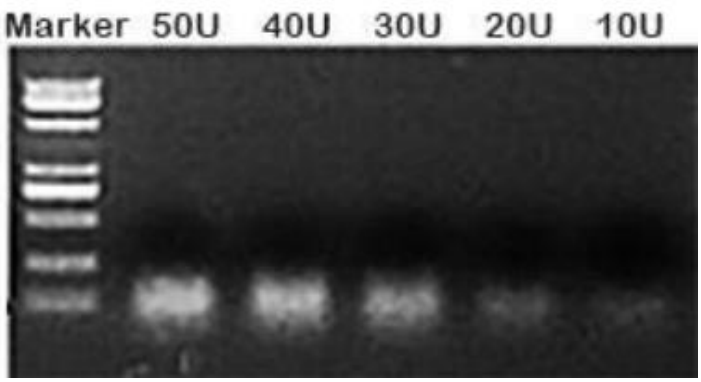
Storage Buffer:

100mM NaCl, 50mM Tris-HCl (pH 7.9), 1mM EDTA, 20mM 2-mercaptoethanol, 0.1% Triton X-100 and 50% glycerol.

Application example:

RNA transcription in vitro.

1. the T7 RNA Polymerase copies were 50 U, 40 U, 30 U, 20 U, 10 U.
2. DNA template was digested by DNase I after the reaction.



Storage Conditions:

-20℃, or -80℃ for long-term storage.

For Research Use Only

Product Packaging (A Package):

Components	Quantity
T7 RNA Polymerase (50U/μl)	125μl
10×Transcription Buffer	1ml

Unit Definition:

At 37℃, pH8.0, the amount of enzyme required for 1nmol [^{3}H] GMP incorporation of acid-insoluble precipitate within 1 hour was defined as one unit of activity.

Quality Assurance:

After many times column purification, there is only a clear single target band in SDS-PAGE gel. After PCR detection, there is no E. coli DNA residue, no endonuclease, exonuclease and RNase contamination.

Reaction system (20μl):

10×Transcription buffer	2μl
ATP/GTP/CTP/UTP Mix	Each 2mM
Template DNA	20ng-1μg
T7 RNA Polymerase	50U
RNase Free Water	Up to 20μl

Reaction at 37℃ for 2-3 hours.

Note:

1. Adding RNase Inhibitor to 1U/ μl to the reaction system can prevent RNase pollution.
2. The template DNA should be RNase-free with high purity, and OD260/280 is recommended to be 1.8~2.0.