enzynomics

T7 RNA Polymerase

Cat.#	Size	Conc.
RP001S	5,000 units	50 units/μl
RP001M	10,000 units	50 units/μl
RP001L	25,000 units	50 units/μl

Store at -20℃

Supplied with: 10X T7 RNA Polymerase Buffer
10X DTT
Sterile water (RNase free)

India Contact:

Life Technologies (India) Pvt. Ltd.
306, Aggarwal City Mall, Opposite M2K Pitampura,
Delhi – 110034 (INDIA).
Ph: +91-11-42208000, 42208111, 42208222
Mobile: +91-9810521400
Fax: +91-11-42208444
Email: customerservice@lifetechindia.com
Web: www.lifetechindia.com

Product description

T7 RNA Polymerase is produced by expressing the RNA polymerase gene of bacteriophage T7 in E. coli, and purified to homogeneity. T7 RNA Polymerase binds specially to the T7 promoter and synthesizes RNA transcripts very efficiently.

Characteristics

- Molecular weight: 98 kDa
- Reaction temperature: 37℃
- Thermal stability: Half life of 2 min at 50℃
- Heat inactivation: 70℃, 10 min
- Active only with the double-stranded T7 promoter sequence.

Applications

- Preparation of radioisotope-labeled RNA probes
- RNA synthesis for in vitro translation
- RNA synthesis for research on RNA structure, processing, and catalysts
- Preparation of anti-sense RNA for studies of regulation of gene expression

Quality Control

- Purity: >99% on SDS-PAGE
- Endonuclease-free

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

ISO9001 ISO14001 ISO13485

- Exonuclease-free
- RNase-free

Unit definition

One unit is defined as the amount of T7 RNA Polymerase required to incorporate 1 nmol of ATP into acid-insoluble materials in 1X T7 RNA Polymerase buffer in 1 hr at 37℃ with DNA contained double-stranded T7 promoter sequence (1 μg) as template.

Storage buffer

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

10 X T7 RNA Polymerase buffer

400 mM Tris-HCl (pH 7.9), 250 mM MgCl2, 20 mM Spermidine

Cautions

- T7 RNA Polymerase requires dithiothreiotol (DTT) for activity. (Long-term storage may cause oxidation of DTT, and addition of freshly-prepared DTT can reactivate the enzymatic activity)
- Total concentration of salt (such as NaCl or KCl) should not exceed 50 mM for the optimal result.

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Standard PCR conditions

- RNA Polymerization reaction conditions

10X T7 RNA Polymerase Buffer	5 μl
T7 RNA Polymerase (50 units/μl)	1 μl
rNTP mixture (5 mM each)	5 μl
10X DTT	5 μl
Double stranded DNA template (1 μg/μl)	1 μl
RNase Inhibitor (40 units/μl, Cat.# M007)	1 μl
Sterile water (RNase free)	up to 50 μl

→Incubate the reaction mixture at 45℃ for 50 to 120 min.
→Terminate reaction by adding 2 μl of 0.5 M EDTA (pH 8.0)
※Reagents and materials not provided :rNTP

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