enzynomics

TOP-T7 RNA Polymerase

Cat.#	Size	Conc.
RP002S	5,000 units	50 units/μl
RP002M	10,000 units	50 units/μl
RP002L	25,000 units	50 units/μl

Store at -20℃

Supplied with: 10X TOP-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).
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Mobile: +91-9810521400
Fax: +91-11-42208444
Email: customerservice@lifetechindia.com
Web: www.lifetechindia.com

Product description

TOP-T7 RNA Polymerase is expressed and purified from E. coli to near homogeneity. This product has increased thermostability. It can utilize the T7 promoter in double stranded DNA to transcribe a gene located downstream of the promoter.

Characteristics

- Molecular weight: 98 kDa
- Reaction temperature: 45℃
- Thermal stability: Half life of 84.5 min at 50℃
- High specificity to T7 promoter sequence in double-stranded DNA

Applications

- Preparation of radioisotope-labeled RNA probe
- RNA synthesis for in vitro translation
- RNA synthesis for studies of RNA structure, RNA processing, and RNA catalysis
- Preparation of anti-sense RNA for gene expression studies

Quality Control

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

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

ISO9001 ISO14001 ISO13485

Unit definition

One unit is defined as the amount of TOP-T7 RNA Polymerase required to incorporate 1 nmol of ATP into acid-insoluble materials in 1X TOP-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-HC (pH 7.9), 100 mM NaCl, 20 mM β-mercaptoethanol, 1 mM EDTA, 0.1% Triton X-100, 50% glycerol.

10X TOP-T7 RNA Polymerase Buffer

400 mM Tris-HCl (pH 7.9), 250 mM $MgCl_2$, 20 mM Spermidine

Cautions

- DTT is essential for TOP-T7 RNA Polymerase activity. (Long-term storage may cause oxidation of DTT, resulting in loss of activity. In this case, addition of freshly prepared DTT can restore TOP-T7 RNA Polymerase activity).
- The total concentration of salt should not exceed 50 mM.

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Standard PCR conditions

- RNA Polymerization reaction conditions

10X TOP-T7 RNA Polymerase Buffer	5 μl
TOP-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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