enzynomics

LIFE TECH Life Technologies™
Your Molecular & Cell Technology Partner

SP6 RNA Polymerase

Cat.#	Size	Conc.
RP003S	2,000 units	20 units/μl
RP003L	10,000 units	20 units/μl

Store at -20℃

Supplied with: 10X SP6 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
SP6 RNA Polymerase catalyzes RNA synthesis in the 5′ → 3′ direction. It requires the presence of a DNA template which contains a SP6 phage promoter. SP6 RNA Polymerase can be used for in vitro translation; RNA probes labeling and prepare mRNA.

Characteristics
- Isolated from a recombinant source
- RNA probe preparation for hybridization
- mRNA generation for in vitro translation systems

Applications
- Radiolabeled RNA probe preparation
- RNA generation for in vitro translation
- RNA generation for studies of RNA structure, processing and catalysis
- Expression control via anti-sense RNA

Unit Definition
One unit is defined as the amount of enzyme that will incorporate 1 nmol ATP into acid-insoluble material in a total reaction volume of 50 μl in 1 hour at 40˚C in 1X RNA Polymerase Reaction Buffer.

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

ISO9001 ISO14001 ISO13485

Reaction Conditions
1X SP6 RNA Polymerase buffer, Incubate at 40˚C

Storage Conditions
50 mM Tris-HCl, 100 mM NaCl, 20 mM β-ME, 1 mM EDTA, 50% Glycerol, 0.1% Triton® X-100 pH 7.9 @ 25℃, Store at -20℃.

Quality Control
- Endonuclease -free
- Exonuclease-free
- Non-Specific DNase Activity
- RNA Polymerase Specificity:
- RNase Activity

Cautions
- SP6 RNA Polymerase activity depends on dithiothreitol.
- Highly sensitive to salt inhibition. Salt concentration should not exceed 50 mM.
- SP6 RNA Polymerase is 30% more active at 40℃ than at 37℃
- Higher yields of RNA can be obtained by raising NTP concentrations (up to 4 mM each)
- Reduced enzyme activity over time may be due to the breakdown of dithiothreitol in the reaction buffer. Add 10 mM fresh dithiothreitol to recover the activity.

Standard PCR conditions
- RNA Polymerization reaction conditions

10X SP6 RNA Polymerase Buffer	5 μl
SP6 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 at 37℃ for 60 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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