SibEnzyme®

T4 RNA Ligase

S **E349**
1,000 units
10,000 u/ml

Lot: 10
Exp: 07/20
Store at -20C

For more details scan the code

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CERTIFICATE OF ANALYSIS

Source:
An *E.coli* strain that carries the cloned RNA Ligase gene from bacteriopfage T4 .

T4 RNA Ligase catalyzes ligation of a 5' phosphoryl-terminated nucleic acid donor to a 3' hidroxyl-terminated nucleic acid acceptor through the formation of a 3'->5'phosphodiester bond, with hidrolysis of ATP to AMP and PPi.Substrates include single-standed RNA and DNA as well as dinucleoside pyrophosphates.

Storage Conditions:
10 mM Tris-HCl (pH 7.4), 50 mM KCl, 1 mM DTT, 0,1 mM EDTA,50% glycerol.
Store at - 20^0 C.

1X SE-T4 RNA Ligase Buffer:
50 mM Tris-HCl,(pH 7.8@ 25^{0}C),10 mM $MgCl_2$, 10 mM DTT, 1 mM ATP.

Applications:
-labeling of 3'-termini of RNA with 5'-[^{32}p] pCp;
-inter- and intra -molecular joining of RNA and DNA molecules.

Unit Definition:
One unit is defined as the amount of enzyme required to convert 1 pmol of [^{3}H]ATP in AMP-ligase4 complex in 15 minutes at 25^{0}C.

Quality Control Assays:
Nonspecific endonuclease assay:
No appearance of nicked DNA was detected after incubation of 1µg supercoiled pUC19 DNA with 10 units of enzyme for 4 hours at 37^0 C.
No alteration of the pattern of DNA bands was detected after incubation of 1µg λ/HindIII DNA fragments with 10 units of enzyme in 50 µl of reaction mixture for 16 hours at 37^0 C.

Oligonucleotide Assay:
No detectable degradation of a single-stranded and double-stranded deoxyribooligonucleotides was observed after incubation with 10 units of enzyme for 3 hours at 37^0 C.

Test for detection of RNase contaminants:
No fluorescence increasing was detected after incubation of 10 units of enzyme with 0.1 mM of fluorescent-labeled deoxyribooligonucleotide including ribonucleotide for 30 min at 37^0 C.
(B.R.Kelemen, T.A. Klink, M.A. Behlke, S.R.Eubanks, P.A. Leland, R.T. Raines.1999. *Nucleic Acids Res.*, 27, P. 3696-3701).

Reagents Supplied with Enzyme:
10X SE-T4 RNA Ligase Buffer.