

User's Manual and Instructions

T4 RNA ligase 1

Catalog No. L1271010, L1271050 and L1271500

T4 RNA Ligase 1 catalyzes the ligation of a 5' phosphorylated nucleic acid donor to a 3' hydroxyl nucleic acid acceptor through the formation of a 3' > 5' phosphodiester bond, with hydrolysis of ATP to AMP and PP_i. Substrates include single-stranded RNA and DNA as well as dinucleoside pyrophosphates

Source: *E. coli*

Concentration: 10 units/μL

Unit Definition One unit is defined as the amount of enzyme required to convert 1 nanomole of 5'-[32P]rA₁₆ into a phosphatase-resistant form in 30 minutes at 37°C.

Quality Control This enzyme has passed the quality control assays: SDS-PAGE analysis for purity, functional absence of endonuclease/nickase activities, functional absence of exonuclease activities, functional absence of protease activity.

Storage and Handling -20°C

Storage Buffer

50 mM Tris pH 7.5, 100 mM NaCl, 1 mM DTT, 50% glycerol, 0.1 mM EDTA, 0.1% TritonX-100.

Reaction Buffer (10X)

500 mM Tris pH 7.5, 100 mM MgCl₂, and 10 mM DTT

Quality Assurance: Free of endonucleases and exonucleases.

Components

1. T4 RNA ligase 1 (10 units/ μL)
2. 10X reaction buffer.

Protocol

Mix the following reagents:

- 20 pmoles oligo
- 10 pmoles phosphorylated RNA
- 1x T4 RNA Ligase 1 reaction buffer
- 10 U T4 RNA Ligase 1
- 20 μl total volume, incubate at 25°C for 1 hour.