

## T4 RNA Ligase 1

### T750872

**Storage:** -20°C. Avoid freeze/thaw cycle.

#### Introduction:

T4 RNA Ligase 1 is an ATP-dependent single-stranded nucleic acid molecule (DNA or RNA) ligase that catalyzes the 5' phosphate group of the donor and the 3' hydroxyl group of the ligand to form 3'→5' phosphodiester bonds and accompanies ATP hydrolysis to AMP and PPI. The substrates of this enzyme are ssRNA, ssDNA and dinucleoside pyrophosphate.

#### Usage method:

##### 1. Cyclization of RNA

###### 1.1 Prepare the mixed solution as shown in the following table:

Component	Quantity
ssRNA	200 ng-1 µg
10×T4 RNA Ligase 1 Buffer	2 µl
ATP	20-50 µM
50% PEG 8000	10% PEG 8000
Murine RNase Inhibitor	0.5-1 µl
T4 RNA Ligase 1	1 µl
Nuclease-free Water	To 20 µl

###### 1.2 Incubation at 25 °C for 2h or 16°C for 16h.

###### 1.3 The reaction was terminated by boiling at 65 °C for 15 min or 2 min.

##### 2. Linking reaction between RNA or DNA oligonucleotides and ssRNA

###### 2.1 Prepare the mixed solution as shown in the following table:

Component	Quantity
ssRNA	1-20 pmol
RNA or DNA oligonucleotides	5-40 pmol
10×T4 RNA Ligase 1 Buffer	2 µl
ATP	2 µl
50% PEG 8000	15% PEG 8000
Murine RNase Inhibitor	0.5-1 µl
T4 RNA Ligase 1	1 µl
Nuclease-free Water	To 20 µl

###### 2.2 Incubation at 25°C for 2h or 16°C for 16h.

2.3 The reaction was terminated at 65°C 15 min or by boiling for 2 min.

**Precautions:**

1. This product is for scientific research purposes only and shall not be used for other purposes.

aladdin<sup>®</sup>