

Product Components

Components	Component number	Concentration	Size-1 1,000 U	Size -2 5,000 U
T4 RNA Ligase 1	RM21507	10,000 U/mL	100 µL	500 µL
10X T4 RNA Ligase Reaction Buffer	RM20146	10X	1.25 mL	1.25 mL X 2
ATP (10 mM)	RM20159	10 mM	300 µL	1.5 mL
50% PEG 8000	RM20133	50%	1.25 mL	1.25 mL X 4

Product Description

T4 RNA ligase 1 catalyzes the formation of a 3' → 5' phosphodiester bond by joining the 5' phosphate end of a nucleotide to the 3' hydroxyl end, accompanied by the hydrolysis of ATP to AMP and PPi. Substrates include single-stranded RNA, DNA, and dinucleoside pyrophosphates.

Product Source

An *E. coli* strain that carries a plasmid encoding the *T4 RNA ligase 1* gene.

Unit Definition

1 units (U) refers to the amount of enzyme required to convert 1 nmol of 5'-[³²P] rA16 into an phosphatase-resistant form within 30 minutes at 37°C.

Storage Buffer

10 mM Tris-HCl, 50 mM KCl, 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, pH 7.5 @ 25°C.

Storage Temperature

-20°C.

Reaction Conditions

1X T4 RNA Ligase Reaction Buffer with 0.1 mM ATP, Incubate at 37°C.

1X T4 RNA Ligase Reaction Buffer

50 mM Tris-HCl, 10 mM MgCl₂, 1 mM DTT, pH 7.5 @ 25°C.

Heat Inactivation

65°C for 20 minutes.