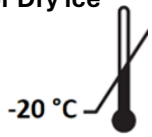
T4 DNA Ligase

REF MO5453 Wet or Dry ice

Concentration: 200u/µl, 4000u

RUO



Components

Contents	Quantity/ Volume	Store Temperature
T4 DNA Ligase (200u/µl)	20µl	-20°C
10X Reaction Buffer	200µl	-20°C

Description

T4 DNA Ligase is purified from an *E. coli* strain carrying a plasmid with the cloned gene of phage T4 encoding this enzyme. T4 DNA Ligase catalyzes the formation of a phosphodiester bonds between 5’ phosphate and 3’ hydroxyl termini in duplex DNA/RNA. This enzyme can join blunt end and cohesive-end termini, repair single stranded nicks in duplex DNA, RNA or DNA/RNA hybrids.

Features

- Ultra-pure recombinant protein.
- Seals single-stranded nicks in duplex DNA, RNA or DNA-RNA hybrids.
- ATP is an essential cofactor for the reaction.

Unit Definition

1u (*Cohesive End Ligation Unit) is defined as the amount of enzyme that is required to give 50% ligation of HindIII fragments of lambda DNA (5' DNA termini concentration of 0.12mM [300µg/ml]) in 20µl of 1X T4 DNA Ligase Buffer in 30 minutes at 16°C.

*One Cohesive End Ligation Unit is equal to 0.015 Weiss units. Equivalently, one Weiss units is equal to 67 Cohesive End Ligation Unit.

Reaction Buffer

10X Buffer T4 Ligase, 50mM Tris-HCl (pH 7.8 at 25°C), 10mM MgCl2, 10mM DTT, 1mM ATP and 25µg/ml BSA.

Application

- Catalyzes the linkage of 5' or 3' blunt / cohesive ends of double-stranded DNA by formation of phosphodiester bond.
- Joining of oligonucleotide linkers or adapters to blunt ends.
- Repair nick formation in duplex nucleic acids.

Quality Control

tested for the absence of endo-exodeoxyribonucleases, ribonucleases.

activation Conditions

It is recommended to activate the T4 Enzyme incubate the mixture at 22˚C for 1 hour and for maximum yield of ligation product, incubate at 16˚C overnight.

Inactivation Conditions

65°C for 15 minutes or boiling for 2 minutes

Signs

Signs	Definitions	Signs	Definitions
	Temperature range on product use		Name and address of the manufacturer of the product
RUO	For Research Use Only		
	Product shipping conditions	REF	Product technical code

شکایات مشتری

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