T4 DNA Ligase for NGS

Catalog Number:

T665501 (1500 U)

T665501 (7500 U)

Storage condition:

-20℃ storage, dry ice transportation.

Products content

Component	1500 U	7500 U
T4 DNA Ligase, 15 U/μL	100 μL	500 μL
4×T4 DNA Ligase Buffer	600 μL	2 x 1.5 mL

Products Introduction

T4 DNA Ligase, isolated and purified from E. coli after induced expression of the T4 DNA Ligase gene, catalyzes the binding of 5'phosphate and 3'hydroxyl groups of adjacent DNA strands in a phosphodiester bond. The enzyme catalyzes the joining of flat-end or sticky-end DNA and the repair of single-stranded incisions in double-stranded DNA, RNA, and single-stranded DNA/RNA hybrids, but is inactive for single-stranded nucleotides.

Active Definition.

1U is the amount of enzyme required to convert 1 nmol of [32PPi] to the Norit absorbable form in an ATP-PPi exchange reaction at 37°C for 20 min and is equivalent to approximately 200 sticky end linkage units.

Applications.

It is mainly used for Adaptor connection during library construction in NGS.

Usage.

It is recommended to use Convoy Adaptor for connection, or you can choose to use NEB or Illumina Adaptor, please refer to the instruction manual of each company for the specific connection method. The following is the procedure for connecting the Adaptor:

1. Add the following reagents directly to the reaction solution where DNA end repair has been completed:

Reagent Name	volumetric
4×T4 DNA ligase Buffer	25 μL
T4 DNA ligase, 15 U/μL	5 μL
Adaptor	5 μL
ddH2O	Replenish to 50 μL

The total volume of solution in the tube was 100 μL at this point.

Note: If the starting sample volume is less than 100 ng, dilute Adaptor 10-fold with deionized water to 1.5 μM and use.

2. Blow and mix with the above reagents of the gun and centrifuge briefly so that the solution collects at the bottom of the tube.

3. 23°C warm bath for 20 minutes.

Note: If a PCR instrument is used for this operation, keep the thermal cover closed.

4. Continue with subsequent steps such as selective recovery of DNA fragments or purification of DNA fragments.