

# T4 DNA Ligase

Catalogue No.	Item	Quantity
WHO180	T4 DNA Ligase	1000 units

## Description

T4 DNA ligase is the most versatile and commonly use ligase for DNA cloning. It catalyzes the formation of a phosphodiester bond between juxtaposed 5' phosphate and 3' hydroxyl termini in duplex DNA in the presence of its cofactors ATP and Mg<sup>2+</sup>. This enzyme will join blunt end and cohesive end termini as well as repair single stranded nicks in duplex DNA.

## Source

Purified from *E. coli* BL21(DH3) carrying the plasmid that enable high expression of T4 DNA ligase gene.

## Applications

DNA cloning of restriction fragments  
Joining linkers and adapters to blunt ended DNA

## Reagents Supplied with Enzyme

10X T4 DNA Ligase Buffer 500 mM Tris-HCl (pH 7.6), 100mM MgCl<sub>2</sub>, 100 mM DTT, 10mM ATP

**Optimal ligation occurs at 16°C.**

## Storage Conditions

50 mM KCl, 10 mM Tris-HCl (pH 7.4), 0.1 mM EDTA, 1 mM dithiothreitol, 200 µg/ml bovine serum albumin and 50% glycerol. Store at -20°C.

### **Unit Definition**

Weiss unit of T4 DNA Ligase is the amount of enzyme required to catalyze the ligation of greater than 95% of 1µg of λ/Hind III fragments at 16°C in 20 minutes.

### **Heat Inactivation**

T4 DNA Ligase can be inactivated by incubation at 65°C for 10 minutes.

### **Quality Assurance**

Purified free of contaminating endonucleases and exonucleases.