

## E. coli DNA Ligase

**CATALOG NO.:** M1217-100

**AMOUNT:** 1000 U (100 µl)

**PRODUCT SOURCE:** Recombinant *E. coli*

**FORM:** Liquid. Enzyme supplied with 10X Reaction Buffer

**COMPONENTS:**

Components Name	Volume	Part No.
<i>E. coli</i> DNA Ligase (10 U/µl)	100 µl	M1217-100-1
10X <i>E. coli</i> DNA Ligase Reaction Buffer	300 µl	M1217-100-2

**DESCRIPTION:**

*E. coli* DNA Ligase is an NAD<sup>+</sup> dependent enzyme that catalyzes the formation of a phosphodiester bond between cohesive 3'-hydroxyl and 5'-phosphoryl termini of double-stranded DNA (dsDNA). This enzyme is also active on nicked DNA but is not effective for the formation of DNA-RNA or RNA-RNA hybrids.

**APPLICATIONS:**

1. Ligation of dsDNA with cohesive termini
2. cDNA cloning of products from second strand cDNA synthesis experiments
3. Alternative to T4 DNA Ligase when blunt-end ligation is not required
4. For ligation of blunt-end fragments use T4 DNA Ligase

**STORAGE CONDITIONS:**

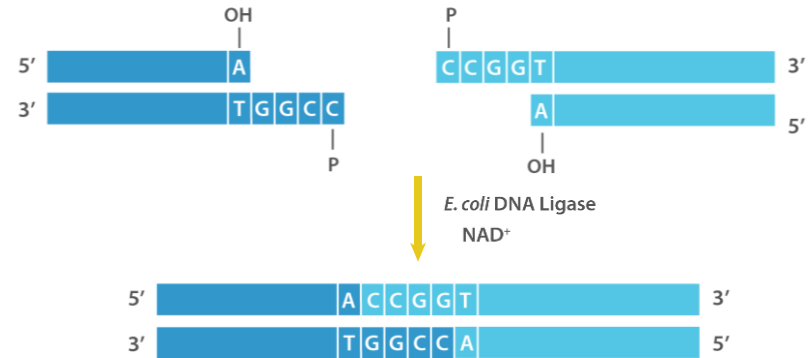
Store all components at -20°C. Avoid repeated freeze-thaw cycles of all components to retain maximum performance. All components are stable for one year from the date of shipping when stored and handled properly.

**ENZYME STORAGE BUFFER:** 50 mM Tris-HCl (pH 7.5), 1 mM EDTA, 1 mM DTT, 200 mM NaCl, and 50% (v/v) Glycerol

**ENZYME UNIT DEFINITION:** One unit is defined as the amount of *E. coli* DNA Ligase that is required to give 50% ligation of Hind III-digested λ DNA in a total reaction volume of 20 µl in 30 minutes at 16°C in 1X *E. coli* DNA Ligase Reaction Buffer (concentration of 5' DNA termini is 0.12 µM (300 µg/ml)).

**10X E. COLI DNA LIGASE REACTION BUFFER:** 300 mM Tris-HCl, 40 mM MgCl<sub>2</sub>, 260 µM NAD, 10 mM DTT, 500 µg/ml BSA, pH 8.0

**HEAT INACTIVATION:** 65°C for 20 minutes



**RELATED PRODUCTS:**

- *E. coli* DNA Ligase (Cat# M1217-100)
- Link-FAST™ 5 Minutes DNA Ligation Kit (Cat# K902-50)
- New T4 DNA Ligase (Cat# M1247-200)
- T4 DNA Ligase (5 u/µl) (Cat# 9101-250)
- T4 RNA Ligase 1 (ssRNA Ligase) (Cat# M1218-100)
- T4 RNA Ligase 2 (dsRNA Ligase) (Cat# M1219-100)
- T4 RNA Ligase 2 (Truncated) (Cat# M1220-100)

**FOR RESEARCH USE ONLY! Not to be used on humans.**