

T4 DNA Ligase

[Cat. No.]

E-3061(20,000 Units)

E-3062(100,000Units)

● **Description** : Catalyzes the formation of a phosphodiester bond between juxtaposed 5' phosphate and 3' hydroxyl termini in duplex DNA or RNA. This enzyme will join blunt-end and cohesive-end termini as well as repair single stranded nicks in duplex DNA, RNA, or DNA/RNA hybrids.

[Lot No.]

● **Source** : T4 DNA Ligase is isolated from a recombinant *E. coli* strain containing the ligase gene cloned from T4 DNA Ligase.

[Concentration]

200 unit/uL

● **Applications** : Joining double-stranded DNA with cohesive or blunt ends.

● **Supplied with Enzyme**

10X Reaction Buffer (1 mL) : 500 mM Tris-HCl , 100 mM MgCl₂, 50 mM DTT, 10 mM ATP, 25 ug/ml BSA (pH 7.8)

● **Storage condition**: 10 mM Tris-HCl(pH 7.5), 50 mM KCl, 1 mM EDTA, 10 mM 2-mercaptoethanol, 50 % glycerol, store at -20 °C.

● **Unit Definition** : 1 Weiss unit(200 unit) of enzyme is defined as the amount of enzyme required to give 90% ligation of *Hind* III fragments of lambda DNA in 30 min at 16 °C in 20 uL of the assay mixture.

● **Heat Inactivation** : 70 °C for 10 minutes

● **Quality Assurance** : Nuclease activity is not detected after incubation of 1 ug of substrate DNA with 10units of T4 DNA Ligase in 20 uL reaction volume with the supplied Reaction buffer for 18 hr at 37 °C.

Note

For research use only. Not for use in diagnostic or therapeutic pro-cedures.

● **Note** : Store the buffer in small aliquots at -20 °C to minimize degradation of the ATP and DTT.

● **References**

1. Engler, M. J. and Richardson, C. C. (1982) In : *The Enzymes*, Boyer, P. D., ed., Academic Press, New York, NY.
2. Zimmerman, S. B. and Pfeiffer, B. H. (1983) *Proc. Natl. Acad. Sci. USA* 80, 5852