T4 DNA Ligase

ISO 9001 Certified

Headquarters
49-3,Munpyeong-dong, Daedeok-gu,Daejeon306-220, Korea
Phone:+82-42-936-8500
Fax:+82-42-930-8600

Seoul Office
412, DMC Hi-tech industry center, 1580, Sangam-dong, Mapo-gu, Seoul, 121-835, Korea
Phone:+82-2-598-1094
Fax:+82-2-598-1096

USA Bioneer, Inc.
1000 Atlantic Avenue, Alameda, CA 94501 USA
Toll free : 1-877-264-4300
Fax : 1-510-865-0350
E-mail:order.usa@bioneer.com

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[Cat. No.]
E - 3061 (20,000 Units)
E - 3062 (100,000 Units)

[Lot No.]

[Concentration]
200 unit/uL

● **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.

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

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

● **Supplied with Enzyme**
10X Reaction Buffer (1 mL) : 500 mM Tris-HCl , 100 mM $MgCl_2$, 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 *Hin*d 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 :** Store the buffer in small aliquots at –20 °C to minimize degradation of the ATP and DTT

Note

For research use only. Not for use in diagnostic or therapeutic procedures.

● **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 Pheiffer, B. H. (1983) *Proc. Natl. Acad. Sci. USA* **80**, 5852