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**Product Data Sheet**


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Product Name: T4 DNA  
 Cat. No.: GP22276  
 Batch No.: 1

**Product Data**

Purity	>98%	Source	Escherichia Colilambda lysogen NM 989.
Physical Appearance	solid	Shipping Condition	Shipped with Ice Packs.
Synonyms	DNA ligase 4; EC 6.5.1.1; DNA ligase IV; Polydeoxyribonucleotide synthase [ATP] 4.		
Formulation	50mM Tris-HCl (pH 7.8 at 25°C), 10mM MgCl <sub>2</sub> , 10mM DTT, 1mM ATP, 25 µg/ml BSA and DNA (0.1 to 1 µm in 5' termini). Optimal ligation occurs at 16°C.		

**Biological Activity**

One Weiss unit is equivalent to circa 67 cohesive-end ligation units. T4 DNA Ligase is strongly inhibited by NaCl or KCl if the concentration is > 200mM. Ligation of blunt-ended and single-base pair overhang fragments requires about 50 times as much enzyme to achieve the same extent of ligation as cohesive-end DNA fragments. Blunt-end ligation may be enhanced by addition of PEG 4000 (10% w/v final concentration) or hexamine chloride, or by reducing the ATP concentration to 50µM. To dilute T4 DNA Ligase that will subsequently be stored at -20°C, 50% glycerol storage buffer should be used; to dilute for immediate use, 1x T4 DNA Ligase reaction buffer can be used.

**Background**

T4 DNA Ligase 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.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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