



Product Datasheet

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| Product Name | Recombinant T4 DNA Ligase |
| Cata No | CB500465 |
| Source | <i>Escherichia Colilambda lysogen NM 989</i> |
| Synonyms | DNA ligase 4, EC 6.5.1.1, DNA ligase IV, Polydeoxyribonucleotide synthase [ATP] 4. |

Description

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.

Specific 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.

Unit Defenition

1. One unit is defined as the amount of enzyme required to give 50% ligation of Hind III fragments of λ DNA (5' DNA termini concentration of 0.12 µM, 300- µg/ml) in a total reaction volume of 20 µl in 30 minutes at 16°C in 1X T4 DNA Ligase Reaction Buffer.

2. One Weiss unit is defined as the amount of enzyme required to catalyze the exchange of 1 nmol of ³²P from pyrophosphate to ATP, into Norit-adsorbable material in 20 minutes at 37°C.

Storage

Two years when stored at -20°C, 2 weeks at 4°C.

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