Product information

T4 DNA LIGASE (with PEG)

Catalog #:	B1445/B1442
Size:	200U / 1,000U
Concentration:	5U/ul
Storage:	-20°C

Enzyme 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.

Applications:
- cloning of restriction fragments;
- joining linkers and adapters to blunt-ended DNA.

Source: Isolated from E.coli strain that carries the cloned DNA ligase gene from bacteriophage T4.

Storage Buffer: 10 mM Tris-HCl (pH 7.5); 50 mM NaCl; 0.1 mM EDTA; 10 mM 2-mercaptoethanol; 50% glycerol. Store at -20°C.

10X Reaction Buffer: 500 mM Tris-HCl (pH 7.8 at 25°C); 100 mM MgCl2; 100 mM DTT; 10 mM ATP; 250 ug/ml BSA.

50% PEG 4000 Solution: Isolated from E.coli strain that carries the cloned DNA ligase gene from bacteriophage T4.

Unit Definition: 0.01 Weiss unit of T4 DNA Ligase is defined as the amount of enzyme required to catalyze the ligation of greater than 95% of the Hind III fragments of 1µg of Lambda DNA at 16°C in 20 minutes. See the unit concentration on the Product Information Label.

Calculation:

$$\text{Units/mg} = \frac{\text{reaction CPM - blank CPM} \times 10}{\text{total CPM} \times \text{reaction volume (ml)}}$$

$$\text{Units/mg protein} = \frac{\text{units/ml}}{\text{mgP/ml (Lowry)}}$$

Quality Control Assay: Free of contaminating exonuclease and endonuclease.

Optimum temperature: 16°C

Storage: -20°C

