DATA SHEET

PRODUCT INFORMATION

Product Name:	**T4 DNA LIGASE**
Catalogue Number:	B1125 / B1122
Size :	2KU/10KU
Concentration:	5U/ul
Enzyme Description :	T4 DNA Ligase catalyzes the formation of a 3'-5' phosphodiester bond between juxtaposed 5' phosphate and 3' hydroxyl termini in duplex DNA or RNA. This enzyme can be used to join DNA fragments with blunt or cohesive-end termini, to repair single stranded nicks in duplex DNA , RNA or DNA/RNA hybrids.
Source :	Purified from recombinant E. Coli strain that carries the cloned DNA ligase gene from bacteriophage T4.
Storage Buffer :	10mM Tris-HCl (pH 7.5), 50mM NaCl, 0.1mM EDTA, 10mM 2-mercaptoethanol, 50% glycerol.
10X Reaction Buffer :	500mM Tri-HCl (pH 7.8 at 25°C), 100mMDTT, 100mM $MgCl_2$, 10mM ATP and 250 ug/ml BSA
Unit Definition :	One unit is defined as the amount of enzyme required to give 50% ligation of Hind III fragments of Lambda DNA (5' DNA termini concentration of 0.12 µM [300 µg/ml]) in 20 µl of 1 x T4 DNA Ligase Reaction Buffer in 30 minutes at 16℃. ATP is an essential cofactor for the reaction.
Quality Control Assay :	Incubation of 200 units of enzyme with 1ug ^3H DNA to test exonuclease activity and endonuclease activity. No exonuclease activity was found after 4 hr incubation at 37C and no endonuclease activity was found after 15 hr incubation.
Applications:	♦ Cloning of restriction fragments ♦ Joining linkers and adapters to blunt-end DNA
Cohesive-end Ligation :	For each reaction, use 2.5 units of enzyme in 10 ul of 1X reaction buffer with cohesive-ended DNA. Incubate at 16°C for 4-6 hrs
Blunt-end Ligation :	For each reaction, use 10 units of enzyme in 10ul of 1X reaction buffer with blunt-ended DNA, incubate at 16°C overnight. About 95% ligation of blunt ended DNA fragments will be achieved after this incubation. Blunt-end ligation recommended if the ligated DNA will be finally used for packaging with lambda phage extract.
Storage :	-20°C

Gentaur Molecular Products
Voortstraat 49
1910 Kampenhout, Belgium