BioVision

Taq DNA Ligase

04/21

For research use only

CATALOG #: M1240-50 50 µl (2500 U)
M1240-200 200 µl (10,000 U)

ACCESSION #: B7A6G7 full length protein

SOURCE: *T. aquaticus* DNA ligase purified from *E. coli*

PURITY: ≥ 95 % by SDS-PAGE

ACTIVITY: 50 U/µl

MOL. WEIGHT: 76.4 kDa

FORM: Liquid

FORMULATION: In 10 mM Tris-HCl, pH 7.4, 100 mM KCl, 1 mM DTT, 0.1 mM EDTA, 200 µg/ml BSA, 50% Glycerol

10X REACTION BUFFER: 200 mM Tris-HCl, 250 mM CH_3CO_2K,100 mM $Mg(C_2H_3O_2)_2$, 10 mM NAD+, 100 mM DTT, 1% Tween 20 pH 7.6 at 25 °C

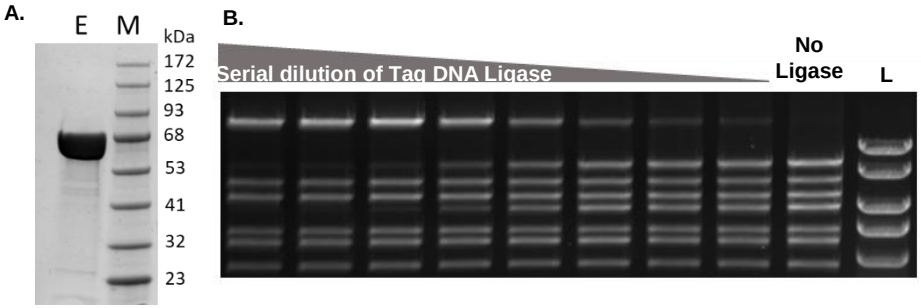
UNIT DEFINITION: One unit is defined as the amount of enzyme required to achieve 50% ligation of 12-base pair cohesive ends from 1 µg of BstEII-digested λ DNA in a 50 µl reaction volume in 15 minutes at 45 °C.

STORAGE CONDITIONS: The DNA ligase is stable at ≤ -20 °C for one year from the date of receipt. Reaction buffer should be aliquoted and stored at -20 °C, or at -80 °C for long term storage.

DESCRIPTION:
Taq DNA Ligase catalyzes the formation of a phosphodiester bond between 5'- phosphate and 3'- hydroxyl groups of adjacent DNA strands annealed to their complement strand. The enzyme only repairs the nicked DNA and is not a substitute for T4 ligase in the repair of most endonuclease cleavage sites. Taq DNA Ligase is intolerant to gaps and mispairs, allowing the resolution of SNPs. The enzyme is active at temperatures up to 75 °C and is used in a number of molecular biology workflows. Most commonly, Taq DNA Ligase can be used to mediate mutagenesis by incorporating phosphorylated oligonucleotides into molecular cloning constructs. Ligated molecules and/or probes can also be used as input into regular PCR reactions for ligase chain reaction (LCR) determination of target sequences.

USAGE PROTOCOL:

1. Thaw the 10X Reaction Buffer.
2. Combine and mix:
   DNA (Up to 1 µg)
   5 µl 10X Reaction Buffer
   2 µl Taq DNA Ligase
   Add water to adjust the final reaction volume to 50 µl.
3. Incubate for 15 minutes at 45 °C.
4. Ligated DNA sample can be used as desired in subsequent molecular biology procedures.



Figures A. SDS-PAGE analysis of Taq DNA Ligase (7.5 µg) on a 4-20% gel under reducing conditions followed by staining with Coomassie Blue. **B.** Activity of Taq DNA Ligase demonstrated using the assay described in Unit Definition. L = DNA ladder.

RELATED PRODUCTS:
E. coli DNA Ligase (Cat. No. M1217)
T4 RNA Ligase 1 (ssRNA Ligase) (Cat. No. M1218)
T4 RNA Ligase 2 (dsRNA Ligase) (Cat. No. M1219)
T4 RNA Ligase 2 (Truncated) (Cat. No. M1220)
BriteRuler™ Pre-stained Protein Ladder (Cat. No. 9306)
Wide range 1 kb DNA Ladder (Cat. No. M1191)
Taq DNA Polymerase (Cat. No. 9001)

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BioVision Incorporated
155 S. Milpitas Boulevard, Milpitas, CA 95035 USA

Tel: 408-493-1800 | Fax: 408-493-1801
www.biovision.com | tech@biovision.com