

# Tth DNA Ligase

## CERTIFICATE OF ANALYSIS

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**#EN13-B** Tth DNA Ligase  
**Concentration:** 5 U/ $\mu$ l (75 CEU/ $\mu$ l)  
**Components:** Tth DNA Ligase, LOT: LCE675875

**Batch Number:** LCE675875  
**Expiry Date:** 04.2021

**Store at:** -20<sup>o</sup>C

**Description:** Tth DNA Ligase catalyzes the NAD-dependent formation of phosphodiester bonds between adjacent 3' hydroksyl and 5'-phosphate termini in double stranded DNA. It is not active against single stranded DNA or RNA and blunt ended DNA. Enzyme is isolated form *Escherichia coli* strain containing plasmid carrying the *Thermus thermophilus* DNA ligase gene. Tth DNA Ligase is stable and active in optimum ligation temperature range of 45-65<sup>o</sup>C, which is 7-10<sup>o</sup>C higher than that of T4 DNA ligase. The final reaction ligation temperature is determined by the Tm of the substrates. High ligation temperature eliminate the nonspecific ligation.

## QUALITY CONTROL

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**Ligase activity:** Tth DNA ligase activity is assayed in a reaction containing 1  $\mu$ g of bacteriophage lambda DNA digested with Sall and Smal, 1x Tth Ligation Buffer and varying amounts of enzyme for 100 minutes at 45<sup>o</sup>C. Results are assayed by agarose gel electrophoresis.

**Result:** PASSED

**DNase contamination:** Free of detectable exonuclease and endonuclease activities as judged by gel electrophoresis following incubation of 1  $\mu$ g of DNA with 5 U of enzyme for 4 h at 37<sup>o</sup>C.

**Result:** PASSED

**RNase contamination:** Free of detectable RNase activities as judged by gel electrophoresis following incubation of 1  $\mu$ g of RNA with 5 U of enzyme for 4 h at 37<sup>o</sup>C.

**Result:** PASSED

**Quality authorized by:** Justyna Leibner-Ciszak **Date:** 12.03.2020

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