

Tth DNA Ligase

CERTIFICATE OF ANALYSIS

#EN13 Tth DNA Ligase
Concentration: 5 U/ μ l (75 CEU/ μ l)
Components: Tth DNA Ligase, LOT: LCE646073
10x Tth Ligation Buffer, LOT: LCB646073

Expiry Date: 04.2021

Store at: -20^oC

Description: Tth DNA Ligase catalyzes the NAD-dependent formation of phosphodiester bonds between adjacent 3' hydroxyl 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 from *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^oC, which is 7-10^oC 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

Ligase activity: Tth DNA ligase activity is assayed in a reaction containing 1 μ g of bacteriophage lambda DNA digested with Sall and SmaI, 1x Tth Ligation Buffer and varying amounts of enzyme for 100 minutes at 45^oC. 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 μ g of DNA with 5 U of enzyme for 4 h at 37^oC.

Result: PASSED

RNase contamination: Free of detectable RNase activities as judged by gel electrophoresis following incubation of 1 μ g of RNA with 5 U of enzyme for 4 h at 37^oC.

Result: PASSED

Quality authorized by: Justyna Leibner-Ciszak **Date:** 26.11.2018

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