

DATA QUALITY SHEET



Tth DNA Ligase

FOR RESEARCH USE ONLY

Cat. GC-040-0100, GC-040-0250, GC-040-0500, GC-040-1000, GC-040-5000

DESCRIPTION	Thermus thermophilus DNA ligase (recombinant form of the enzyme; cloned from strain HB27) catalyses the formation of a phosphodiester bond between the 5'-phosphate and 3'-hydroxyl groups of adjacent nucleotides which are hybridized to a complementary target DNA. The ligation will occur only if the oligonucleotides are perfectly paired to the complementary target DNA and have no gaps between them. Therefore, a single-base substitution can be detected.
APPLICATION	- LCR DNA - ligation
CONCENTRATION	40 units/ μ l
UNIT DEFINITION	One unit is defined as the amount of the enzyme required to give 50% (cohesive end unit) ligation of the 12- base pair cohesive ends of 1 μ g of BstE II-digested ϕ -DNA in 15 minutes at 45°C in a total reaction volume of 50 μ l. One cohesive end ligation unit equals 0.015 Weiss units.
STORAGE BUFFER	10 mM Tris-HCl pH 7.5; 50 mM KCl; 0.1 mM EDTA; 1 mM DTT; 0.2% Triton X-100; 50% glycerol
10X REACTION BUFER	200 mM Tris-HCl pH 7.6; 250 mM KCl; 100 mM MgCl ₂ , 100 mM DTT; 10 mM NAD, 1% Triton X-100 Optimal ligation occurs at 45°C.
STORAGE TEMPERATURE	Store at -20°C in a constant temperature freezer.
QUALITY CONTROL	Activity, SDS-PAGE purity, absence of RNases, ssDNases, endonucleases and phosphatases.
FUNCTIONAL ANALYSIS	Tested functionally in a unit activity test.