Tinzyme Co., Limited

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Tth Taq Ligase

Product Number: LG05

Shipping and Storage

Store at -20℃ .

Components

Component	LG05	LG05
Tth Taq Ligase	2000U	10000U
5×NAD DNA Ligase Buffer	0.3 ml	1.5ml

Description

DNA ligase catalyzes the formation of phosphodiester bonds between 5 '- phosphate and 3' - hydroxyl groups in double stranded DNA, using NAD+as a coenzyme as the energy source for the reaction. Connection only occurs when oligonucleotides perfectly pair with complementary target DNA and there is no gap between them. Not active on single stranded DNA or RNA and flat terminal DNA. Therefore, single base mutations can be detected. High thermal stability allows for precise detection of SNPs under high-density hybridization conditions, with high specificity and rigor.

Our company's Tth Taq Ligase is a recombinant protein expressed and purified through multiple steps.

Concentration

40U/μl

Features

1. Good heat resistance;
2. It can connect the cleavage sites on DNA strands under high temperature conditions.

Application

1. Connection of phosphorylated oligonucleotides in ligase chain reaction (LCR) reaction
2. Detection of allele specificity using ligase chain reaction

Unit definition

In a 20μl reaction system, under 45℃ conditions, the amount of enzyme required to connect 50% of 1μg of λDNA fragments digested by BstEII (12bp sticky end, equivalent to 0.0338pmole) within 15 minutes is defined as one active unit.

Activity determination conditions

20mM Tris-HCl(pH 7.6) , 25mM Potassium Acetate , 10mM Magnesium Acetate , 1mM NAD+, 10mM DTT , 0.1% TritonX-10, 45℃。

Storage buffer

20 mM Tris-HCl (pH8.0), 150 mM NaCl, 1 mM DTT, 50%(v/v) glycerol.

Quality control

After strict quality control testing, it is ensured that the product has the highest activity and purity.

Note

For Research Use Only

1. Taq DNA Ligase cannot replace T4 DNA Ligase
2. Long term storage (>30 days), please store at -80°C.

Protocol

1. DNA connection reaction

1.1. Prepare the reaction system according to the following table

Component	Volume/μl
5×Buffer	4
Substrate: DNA with complementary sticky ends>8nt	100ng-1μg
Tth Taq Ligase(40U/μl)	1-2
H_2O	Variable
Tatal	20

1.2. 45°C connection for 15 minutes

1.3. For longer double stranded DNA substrates, agarose electrophoresis is used to detect the connecting products; For short DNA fragments shorter than 100 bp, polyacrylamide gel electrophoresis was used to detect the connecting products.