Taq DNA Ligase

Datasheet, Version 2/2016

protean
Forefront of Biotechnology

Catalog #	1741
Synonyms	Thermostable Ligase, Ampligase
Type	Recombinant
Source	E. coli
Species	Thermus aquaticus
Tag	His6
Form	50% Glycerol solution + Reaction Buffer 10x
Purity	>95% by SDS PAGE
Shipping	Ice pack

Introduction

Taq Ligase is thermostable DNA ligase from the thermophilic bacterium Thermus aquaticus cloned to E. coli cells. This enzyme is able to be stable and active at much higher temperatures than conventional DNA ligases and could be used at PCR conditions. However, it cannot be used to replace T4 DNA Ligase in most cloning methods due to insufficient activity at low temperatures where 2- and 4-base cohesive ends form stable duplexes or blunt ends.

Description

Taq Ligase is a 74 kDa Thermus aquaticus ligase protein catalyzing the NAD-dependent ligation of adjacent 3-hydroxyl and 5-phosphate termini in duplex DNA structures. It does not exhibit activity on blunt ends or RNA substrates. This enzyme is active in a variety of DNA polymerase buffers within a pH range of 7-8.

Application

Gibson assembly, ligation amplification (LCR), repeat expansion detection (RED), high-fidelity gene synthesis from overlapping oligodeoxynucleotides, multiple site mutagenesis, targeted inverted repeat amplification, next generation sequencing (NGS). More details here.

Purification method

Affinity chromatography

Formulation

Storage buffer: 50 mM Tris-HCl (pH 7.5), 100 mM NaCl, 0.1 mM EDTA, 0.1% Triton X-100, 1 mM dithiothreitol. 10x Reaction Buffer: 200 mM Tris-HCl (pH 8.3), 250 mM KCl, 100 mM MgCl2, 5 mM NAD, and 0.1% Triton X-100.

Specificity

DNA

Storage

Store enzyme at -20C, buffer at -80C

Analyte specific reagent (ASR) manufactured under ISO 13485.
Country of origin: Czech Republic

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