



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

Tag 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

Tag 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**

