

Product name: Pfu DNA Ligase

Cat #: PDL-100, PDL-200

Description:

Pfu DNA Ligase is a heat-stable enzyme that facilitates the creation of a phosphodiester bond between the 5'-phosphate and the 3'-hydroxyl groups of two neighboring DNA strands that are fully paired and aligned with a complementary DNA strand, ensuring no gaps. This ligase requires ATP as a cofactor and exhibits activity within a range of elevated temperatures, from 45°C to 70°C.

Pfu DNA Ligase is highly effective for ligating nicks in DNA during incubations at high temperatures. Its extreme thermostability allows it to withstand the rigorous conditions of PCR processes. While it does not ligate short 4 base overlaps, which are common in restriction enzyme digests, it is proficient at efficiently ligating 12 base pair overlaps. Additionally, this enzyme is isolated from a recombinant source, ensuring its purity and effectiveness for precise molecular biology applications.

Protocol:

1. Prepare reaction set-up as follows:

DNA	up to 1 µg
Pfu DNA Ligase Reaction Buffer (10X)	5 µl
Pfu DNA Ligase	2 µl (80 units)
H ₂ O	up to 50 µl

2. Incubate at 45°C for 15 minutes.