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FS-T-004 PFU DNA POLYMERASE

DESCRIPTION

Pfu DNA Polymerase ***is a thermostable enzyme possessing 5'-3' DNA polymerase and 3'-5' proofreading exonuclease activities. It is isolated from the hyperthermophilic marine archae Pyrococcus furiosis (Pfu). Base misinsertions that may occur during polymerization are rapidly excised by the proofreading activity of the polymerase. PFU DNA Polymerasegenerates blunt-ended PCR fragments, can amplify fragments up to 5 kb at extremely high fidelity. This Taq provides more robust synthesis of longer amplification products***

CONCENTRATION:

5units/ul

UNIT DEFINITION

One unit is defined as the amount of enzyme that incorporates 10 nmoles of dNTPs into acid-insoluble form in 30 minutes at 72°C under the assay conditions (25 mM TAPS (tris-(hydroxymethyl)methyl-amino-propane-sulphonic acid, sodium salt) pH 9.3 (at 25°C), 50 mM KCl, 2 mM $MgCl_2$, 1 mM β-mercaptoethanol) and activated calf thymus DNA as substrate

STORAGE BUFFER

10 mM K-phosphate buffer pH 7.0, 100 mM NaCl, 0.5 mM EDTA; 1 mM DTT, 0.01% Tween 20; 50% glycerol (v/v)

REACTION BUFFER 10X

83 mM $(NH_4)_2S0_4$, 350 mM Tris-HCl pH 8.8 (at 25°C), 22 mM $MgCl_2$, 0.75% Triton X100, 100 mM KCl

APPLICATIONS

Due to its 3'-5' proofreading exonuclease activity, PFU DNA Polymerase is recommended for use in PCR and primer extension reactions that require high-fidelity synthesis.

High Fidelity PCR
Cloning

ASSOCIATED ACTIVITIES:

Endonuclease and exonuclease activities were not detectible after 2 and 1 hours incubation, respectively, of 1 μg lambda DNA and 0.22 μg of EcoR I digested lambda DNA, respectively, at 72^{o}C in the presence of 15-20 uints of **Pfu** DNA polymerase

STORAGE CONDITIONS:

Store **Pfu** DNA Polymerase at -20^{o}C

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