Pfu DNA Polymerase

Cat. No. CMC08 **Lot. No.** (See product label)

SPECIFICATION

Product Overview	
Source	E.coli
Description	Pfu DNA Polymerase is a thermostable enzyme of approximately 90kDa purified from the expression product of E. coli strain that carries the Pfu DNA Polymerase gene from Pyrococcus furiosus strain Vc1 DSM3638. The enzyme replicates DNA at 75°C, catalyzing the polymerization of nucleotides into duplex DNA in the 5′→3′ direction in the presence of magnesium. Pfu DNA Polymerase also possesses 3′→5′ exonuclease (proofreading) activity. Base misinsertions that may occur during polymerization are rapidly excised by the proofreading activity of the polymerase. Consequently, Pfu DNA Polymerase is recommended for use in PCR and primer extension reactions that require high-fidelity synthesis. Pfu DNA Polymerase-generated PCR fragments are blunt-ended.
Feature	High Fidelity: Pfu DNA Polymerase exhibits the lowest error rate of any thermostable DNA polymerase. Performance Guarantee: Creative BioMart PCR systems, enzymes and reagents are proven in PCR to ensure reliable, high-performance results. If you are not completely satisfied with any our PCR product, we would send a replacement or refund your account.
Applications	Pfu DNA Polymerase is recommended for use in PCR, primer extension reactions and other applications that demand high fidelity.
Unit Definition	One unit Pfu DNA Polymerase is defined as the amount of enzyme required to catalyze the incorporation of 10nmol of dNTPs into acid-insoluble material in 30

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	minutes at 75°C.
Quality Control Tests	PCR, activity, SDS-PAGE (purity), endonuclease/nickase.
Storage	Pfu DNA Polymerase in 50mM Tris-HCl (pH 8.2 at 25°C), 0.1mM EDTA, 1mM DTT, 50% glycerol and 0.05% CHAPS should be stored at -20°C.
10× Reaction Buffer with MgSO4	200mM Tris-HCl (pH 8.8 at 25°C), 100mM KCl, 100mM (NH4)2SO4, 20mM MgSO4, 1.0% Triton X-100 and 1mg/ml nuclease-free BSA.
Reaction Conditions	To amplify a 1kb DNA template Set up PCR reactions as follows: Pfu DNA Polymerase 0.2µl 2.5mM dNTP Mixture 4µl 10× Reaction Buffer with MgSO4 5µl 10µM Primers 1µl each Template ~1µl ddH2O 38µl

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