

Pfu DNA Polymerase Recombinant Protein | PF0212 recombinant protein

Recombinant Pfu DNA Polymerase

CATALOG #
AAA38243

HOST
E Coli

PRODUCT SYNONYMS

Pfu DNA Polymerase; Recombinant Pfu DNA Polymerase; Pfu-DNA Polymerase Recombinant; DNA polymerase; EC 2.7.7.7; Pfu polymerase; Pfu-DNA Polymerase; PF0212 recombinant protein

PRODUCT SPECIFICATIONS

Host	E Coli
Form/Format	50mM Tris-HCl, pH 8.2, 1mM DTT, 0.1mM EDTA, 0.05% CHAPS and 50% glycerol. Sterile liquid formulation.
Sequence Length	775
10X Buffer with MgSO4	200mM Tris-HCl (pH 8.8 at 25 degree C), 100mM (NH4)2SO4, 100mM KC1, 1% Triton X-100, 1mg/ml BSA, 20mM MgSO4.
PCR Protocol	Add the following components to a amplify 1kb DNA template: 5 ul 10x buffer with MgSO4. 4 ul 2.5mM dNTPs. 1 ul Primers mix (10 uM each). 0.2 ul Pfu-DNA Polymerase. and 38 ul Water. Amplify using the following cycling parameters: Heat Soak: 1 cycle at 94 degree C/4 min. Denaturation: 30 cycles at 94 degree C/30 sec. Annealing: 30 cycles at 58 degree C /30 sec. Extension: 30 cycles at 72 degree C /90 sec. Final: 1 cycle at 72 degree C /5 min.
Unit Defenition	1U of enzyme catalyzes the incorporation of 10nmol of dNTP into acid-insoluble product in 30 minutes at 75 degree C.
Preparation and Storage	Pfu DNA Polymerase although stable at 10 degree C for 5 days, should be stored below -18 degree C.Please prevent freeze-thaw cycles.

ADDITIONAL INFORMATION

Related Product Information for PF0212 recombinant protein

Description: Pfu DNA Polymerase is a thermo-stable enzyme having a Mw of about 90kDa. Pfu DNA Polymerase is derived from E Coli that and cloned from Pyrococcus furiosus strain Vc1 DSM3638. Pfu DNA Polymerase replicates DNA at 75 degree C, catalyzing the polymerization of nucleotides into duplex DNA in the 5' to 3' direction in the existence of magnesium. Pfu DNA Polymerase possesses 3' to 5' exonuclease (proofreading) activity. Base misinsertions that take place during polymerization are swiftly removed by the proofreading activity of the polymerase. Therefore, Pfu DNA Polymerase is suggested for use in PCR and primer extension reactions that require high-fidelity synthesis. Pfu DNA Polymerase-generated PCR fragments are blunt-ended.

Introduction: Pfu DNA polymeraseenzyme is found in the hyperthermophilic archaeonPyrococcus furiosus, where it functions in vivo to replicate the organism's DNA. In vitro, Pfu is used to swiftly amplify DNAin the Polymerase Chain Reaction, where the enzyme serves the central function of copying a new strand of DNA during each extension step. Pfu DNA polymerase has superior thermostability and 'proofreading' properties compared to other thermostable polymerases. Unlike Taq DNA polymerase, Pfu DNA polymerase possesses 3' to 5' exonuclease proof reading activity, meaning that it works its way along the DNA from the 5' endto the 3' endand corrects nucleotidemisin corporation errors. Pfu DNA polymerase-generated PCRfragments will have fewer errors than Taq-generated PCR inserts. As a result, Pfu is more commonly used for molecular cloning of PCR fragments than the historically popular Taq. Pfu DNA polymerase is superior for techniques that require high-fidelity DNA synthesis, but can also be used in conjunction with Taq polymerase to obtain the fidelity of Pfu with the speed of Taq polymerase activity.

Product Categories/Family for PF0212 recombinant protein

Enzymes; DNA Polymerase

NCBI AND UNIPROT INFORMATION

NCBI GI #	18976584
NCBI GeneID	1468044
NCBI Accession #	NP_577941.1
NCBI GenBank Nucleotide #	NC_003413.1
UniProt Accession #	P61875; P80061; P95584
Molecular Weight	90,113 Da
NCBI Official Full Name	DNA-directed DNA polymerase
NCBI Official Symbol	PF0212
NCBI Protein Information	DNA-directed DNA polymerase
UniProt Protein Name	DNA polymerase
UniProt Gene Name	pol
UniProt Entry Name	DPOL_PYRFU

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://www.aaabiotech.com/pol-recombinant-protein-e-coli/38243>