XcelGen® Quality Kits made by Xperts

Pfu DNA Polymerase (Cat. No.: XG00021-100)

xcelris genomics An Abellon Company

Store at -20°C

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´to3´ direction in the presence of magnesium. Pfu DNA Polymerase also possesses 5´to3´ 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.

Features:

High Fidelity: Pfu DNA Polymerase exhibits the lowest error rate of any thermostable DNA polymerase.

10xReaction 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 1 mg/ml nuclease-free BSA.

Applications:

1. For DNA amplification by Polymerase Chain Reaction (PCR).
2. For DNA Cloning, DNA fragments stitching, SNP, gene synthesis 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 minutes at 75°C.

Reagents :

Pfu DNA Polymerase 5U/µl	20 µl
10X Pfu Buffer with Mg2+	0.5 ml

Reaction Conditions (To amplify a 1 kb DNA template):

Set up PCR reactions as follows:

Pfu DNA Polymerase	0.25 µl (1.25U)
10×Pfu Buffer	5 µl
10µM Primers	1µl each
dNTP(10mM each)	1.0 µl
Template	< 500 ng
Nuclease-free H_2O	up to 50µl

PCR condition:

Step	Temp	Time	Cycles
Heat Soak	94°C	2 min	1
Denaturation	94°C	30 sec	30
Annealing	55°C	30 sec	
Extension	72°C	60 sec	
Final	72°C	5 min	1

Note: This product is for research use only.