

# Pfu DNA Polymerase

## 250 U

Cat No.110032

### DATA-SHEET

Pfu DNA polymerase is a thermostable enzyme isolated from *Pyrococcus furiosus*. The enzyme replicates DNA at 75 °C. catalyzing the polymerization of nucleotides into duplex DNA in the 5'-3' direction. Pfu DNA polymerase possesses 3'-5' exonuclease (proofreading) activity. Base misinsertions that may occur during polymerization are rapidly excised by the [proof reading activity of the polymerase. 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.

#### UNIT DEFINITION :

One unit of Pfu DNA Polymerase activity is defined as the amount of enzyme required to incorporate 10nmoles of dNTP's into acid-insoluble DNA fraction in 30 minutes at 72°C.

**CONCENTRATION PROVIDED :** 2500 Units/ml i.e. 2.5 Units/ $\mu$ l

Storage Buffer: 50mM TrisHCL (pH 8.2), 0.1mM EDTA, 1mM DTT, 0.1% Nonidet P40, 0.1% Tween 20, 50% glycerol.

#### CONTENTS OF THE PACK :

250 units Pfu DNA polymerase	100 $\mu$ l - 1 Vial
10 X Reaction buffer	0.65 ml - 1 Vial
25 mM MgSO <sub>4</sub>	0.5 ml - 1 Vial
Mol. Grade water	1.5 ml - 1 Vial

**10X Reaction Buffer :** 10X Reaction buffer with MgSO<sub>4</sub> (20mM) Contains: 200mM Tris HCL (pH 8.8) 100mM KCL, 100mM (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>, 1.0% Triton X-100, 1mg/ml nuclease free BSA.

**Mol grade water:** Water is supplied in 1.5 ml, which is RNase and DNase free. Advisable to aliquot the Mol. Grade water.

**MgSO<sub>4</sub> Solution :** 0.5 ml of 25mM MgSO<sub>4</sub> Solution (In case higher Conc. of Mg is to be used)

**Storage Conditions :** Recommended storage temperature is -20 °C.

**APPLICATIONS:** PCR reactions that require high fidelity synthesis i.e. Gene cloning, DNA expression, Mutation analysis & other genetic manipulations.

#### GENERAL REACTION CONDITIONS:

##### Reaction Mixture (50 $\mu$ l reaction volume)

-- 10X Reaction Buffer	5 $\mu$ l
-- Primer (Forward)	20-50 pmoles
-- Primer (Reverse)	20-50 pmoles
-- 10mM dNTPs mix.	Variable (1-5 $\mu$ l)
-- Pfu DNA polymerase	2.5 units
-- Template	Variable
-- D.W.	Variable

Total

50  $\mu$ l



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**PACK SIZE AVAILABLE:**

<b>Cat. No.</b>	<b>PRODUCT</b>	<b>Pack Size</b>
110031	Pfu DNA Polymerase	100 U
110032	Pfu DNA Polymerase	250 U
110033	Pfu DNA Polymerase	500 U (250 U x 2)
110034	Pfu DNA Polymerase	1000 U (250 U x 4)

**NOTE :** For research use only. Not for use in Diagnostic or therapeutic procedures.  
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